1960 Air Conditioning Specs . . *In Part 2*

IN TWO PARTS—PART ONE

AIR CONDITIONING HEATING & REFRIGERATION NEWS
The Newspaper of the Industry
RESIDENTIAL — COMMERCIAL — INDUSTRIAL
March 7, 1960
Issued every Monday at 450 West Fort St., Detroit 26, Michigan
Established 1926
Member, Associated Business Publications ABP ABC Member, Audit Bureau of Circulations

Vol. 89, No. 10, Serial No. 1,615
Reentered as second class matter October 3, 1936, at the post office at Detroit, Mich., under the Act of March 3, 1879.
Subscription Price, $6 Per Year (U. S. and Canada). Foreign: $10.00 Per Year.
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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

'Package' Air Conditioning Matures
We Can't Afford to Rile the Dutch
What Price Growth?
Story of the Week
Gags of the Week
More Newspaper Boners
Last Gasp

'Package' Air Conditioning Matures

As evidenced in a round-up of specifications in this issue of AIR CONDITIONING, HEATING & REFRIGERATION NEWS, the range of "package" air conditioners now covers every conceivable type of application.

Stores, homes, specialty shops, supermarkets, office buildings, factory segments, hotels, motels, hospitals, apartment houses—even rehabilitated "slum" dwellings (see editorial in this issue)—all can be improved with the widest variety of reliable products ever offered in this field.

Another evidence of "maturity" in this field: the Unitary Section of ARI at long last is publicizing virtually complete statistics.

Thus the industry can plan production and sales targets more rationally.

The NEWS has been hammering away editorially on this subject for quite awhile. Present administration of ARI (Rudy Berg, President) has eventuated it.

All hail! This business is growing up!

We Can't Afford to Rile the Dutch

THE NETHERLANDS comprise one of the world's best markets for our industry's products and services.

Even though nearby West Germany often beats us on price and service, the Dutch prefer to "buy American." They haven't forgotten the German occupation days, and they admire our goods.

So what happens? A stupid, bungling Washington bureaucracy again has denied KLM, the admirable Dutch airline, rights to land on our Pacific Coast.

This has angered Netherlanders, and no wonder.

(Continued on Page 18, Col. 1)

Air Force Requires ARI Seal On Unitary Air Conditioning

WASHINGTON, D. C. — ARI Certification is now required on all unitary air conditioning equipment purchased by the U. S. Air Force.

This requirement is spelled out in an Air Force "pamphlet" (No. AFP 91-2-1) issued over the name of Gen. Thomas D. White, chief of staff, and dated Jan. 29, 1960.

Although the pamphlet wording merely "recommends" and "requests" ARI Certification be required, this is actually an order, explains an Air Force spokesman.

A foreword in the pamphlet reads:

"This pamphlet has been developed to give all Air Force Civil Engineer Personnel responsible for refrigeration and air conditioning activities, information concerning the Air Conditioning and Refrigeration Institute Certification Program

(Continued on Page 65, Col. 3)

Illinois Engineers Propose Plan for Professional Seal on Plans, Specs

CHICAGO—In announcing a campaign against so-called engineering "quacks," the Chicago Chapter of the Illinois Society of Professional Engineers (ISPE) said "the engineering profession has asked the City Building Department to require all plans and specifications to be sealed with a professional engineer's seal."

A press release issued recently by the chapter indicates that it wants this proposed requirement to apply to every plan for air conditioning, heating, and ventilating systems, including those for private residences.

In its attack on "quacks," the chapter is using as a springboard the Franklin death case (in Evanston, Ill.) of last summer.

In the chapter's press release, it is charged that the engineering profession "is being infiltrated by 'quacks'" who are "doing great harm to the public and to [that] profession.

"Unless the light of notoriety is thrown on the 'quacks' and the public recognizes them for what they are, many people will

(Continued on Page 67, Col. 1)

Carrier Strike Follows Dispute on Overtime

SYRACUSE, N. Y.—A walkout by production workers, following disciplinary action against some union officials who had been interfering with production by inducing employes to refuse to work overtime, shut down production operations at Carrier Corp.'s plant here last week.

Salaried employes continued to work, but pickets patrolled

(Continued on Back Page, Col. 1)

RACCA Names Jensen Managing Director

WASHINGTON, D. C.—Norman Jensen, formerly executive secretary of RACCA and Mechanical Contractors Association of Houston, Inc., has been named new managing director of the Refrigeration & Air Conditioning Contractors Association (RACCA National) and will manage expanded activities of a new office in Washington, D. C., it has been announced by

(Continued on Page 65, Col. 5)

1959 Residential Air Conditioning Sales In Fort Worth Hit New High

By C. Dale Mericle

FORT WORTH, Texas — All previous records for sales of residential air conditioning were broken here in 1959 when an estimated 2,000 central systems were sold and installed in dwelling units in this area.

This represents a 25% increase over the previous high of 1,616 chalked up in 1956 and nearly a 40% gain over the estimated sales of 1,437 noted for both 1957 and 1958.

(It is perhaps interesting to note that the 1959 record sales were predicted in the April 27, 1959 NEWS as the result of interviews with contractors and wholesalers.)

At least one contractor also thinks "business looks even better" for 1960. "Air conditioning is really accepted now, and prices are lower," he points out, adding that "no one who's planning a three-bedroom house here will even consider leaving out air conditioning."

As before, the NEWS was

(Continued on Page 52, Col. 1)

1960 Air Conditioning 'Show Case' Issue—Guide to Better Sales, Profits

This is the 1960 "Air Conditioning Show Case" Issue of the News—an annual event which for several years has heralded the start of the major sales effort on air conditioning. For the reader who may ask "what's in it for me" the answer is—

If you are engaged in the sale or installation of air conditioning equipment, this issue is worth intensive study if you'd like to improve your performance in 1960. If you carry a briefcase or sales kit you will find it beneficial to carry this Show Case Issue in it. It contains—

In one special section, key specifications of all models of *nearly every make* of *all types* of self-contained air conditioning units on the market today. Includes packaged residential and commercial units, split systems, room air conditioners, heat pumps, and packaged liquid chillers. Thus, one handy reference work on available self-contained air conditioning units.

Just as Useful are the special articles that will help you in your sales and promotion planning, and in your over-all management planning aimed at making 1960 a more profitable year. Among these:

Packaged Units vs. Central System—a buyer of air conditioning for industrial applications tells why packaged units were selected for a particular job. (Page 32.)

What the Homeowner Knows—and Thinks About Air Conditioning. Report from the Family Conference on Housing offers clues on selling to the homeowner. (Page 30.)

Close Attention To Figuring Overhead and Profit Assures Contractor's Success. A story based not on theory, but reporting actual practices of an air conditioning contractor who applied some principles of better management to improve his profit picture. (Page 48.)

Older Building Turns To Air-Cooled Packaged Air Conditioners In Modernization Move. Flexibility was the keynote in selecting equipment, and ingenuity was the answer to making the installation possible. Good tips for the contractor. (Page 40.)

Ft. Worth Survey of 1959 Central Residential Installations. This survey covering nearly every central home system sold in the Texas city last year gives a picture of the kind of systems being purchased by builders, new homeowners, and existing homeowners. A little study of the survey will help you set your sights right on the market. (Page 52.)

Air-Cooled Packaged Units Gaining Strong Market In Lower Cost Housing. Although the split system has become the dominant type of equipment for residential and some small commercial applications, packaged air-cooled units find favor with dealers who can use some ingenuity in installation. (Page 16.)

Packaged Chiller a Key Factor: Hospital Installs Air Conditioning on Pay-As-You-Go Basis. How a hospital moves towards complete air conditioning with systematic outlays of capital expenditure. (Page 64.)

A 'Parts and Pieces' Story to a Homeowner? Some experts said it "couldn't (or shouldn't) be done" but a top Texas salesman finds it very effective in selling residential systems. (Page 36.)

Why You Need Salesmen—You Must Add $50,000 to Your Gross Profit to Keep Up. Some figures that don't lie explain why a dealer must add to his volume just to hold his present "take." (Page 54.)

Complaints. How are your customer relations in service work. How much repeat business and "word-of-mouth" advertising you get can depend on customer relations you achieve in service work. (Page 38.)

Plus many other features including some fresh thoughts on extended compressor warranties (page 20); air conditioning in Hawaii (page 24); publicity can help you sell (page 56); keep your windows dry (page 60); service diagnosis chart for a complex system (page 62).

NARGUS-Texas Convention Is Sell-Out

CHICAGO—A complete sell-out of exhibit space for the 1960 joint NARGUS-Texas convention in Dallas, June 12-16, indicates the "tremendous" advance interest in the food distribution meeting to be held in the air conditioned Dallas Memorial Auditorium.

The auditorium will present the biggest expanse of food, grocery, non-foods, and equipment and fixtures exhibit in the history of National Association of Retail Grocers and the Texas Retail Grocers Association NARGUS announced in a recent bulletin.

Tropical Produce Ripening Room Is Feature of Kroger Supermarket

KANSAS CITY, Mo.—A tropical produce ripening room is a special feature of the newest and largest Kroger supermarket, which opened recently in the $15 million Ward Parkway Shopping Center here.

Visible to customers, the novel room has controlled heat and humidity for special handling of produce flown in from California, South America, and Hawaii.

Other innovations of the 30,000-sq. ft. supermarket include a palletized rack system for unloading and storing merchandise, extensive use of glass in exterior walls, and umbrella carts displaying special items.

Raypak Announces Plans To Enter Air Conditioning Field by End of '60

EL MONTE, Calif.—Plans to enter the air conditioning field before the end of 1960 were announced recently by Alfred Whittell, Jr., president of Raypak Co., Inc. here, manufacturer of central heating boilers.

Raypak boilers are now used for residential and commercial heating in connection with hot water coil-and-fan units.

"It is a short step from using these hydronics systems for heating only, to using them for both heating and cooling," Whittell said. "For Raypak, as well as for the rest of the heating industry, dual-purpose systems are just ahead."

Whittell has brought his firm up from a three-man factory of 11 years ago to a position of importance in the boiler and commercial water business, with sales now running over $2-million, it was stated. Raypak boilers in the 1950-61 period will have sales increases of about 30%, Whittell predicted.

The company's air conditioning equipment will consist of air handling units and water chillers for use in hydronics heating and cooling systems, with emphasis on valance and radiant panel ceiling installations with dehumidified and tempered air.

Manufacture of this additional hydronic product is facilitated by the 20% increase in sales of heater equipment in 1959, Whittell explained. Broader distribution and marketing of new products in the past year are responsible for much of the increase, he said.

Robertshaw Outlines Plans for Developing Free-Piston Compressor

RICHMOND, Va. — Plans of Robertshaw-Fulton Controls Co. for testing and ultimate production of a free piston gas engine-compressor unit were outlined recently by A. B. Beck, vice president.

As previously reported, negotiations were completed late last year giving the company an exclusive license to manufacture and market the new unit, which is for air conditioning applications.

Principles upon which the machine operates were invented by scientists at Battelle Memorial Institute under a project of the PAR Research Program of the American Gas Association.

Beck told the NEWS that Robertshaw-Fulton this year "will do extensive controlled tests of six prototype air conditioning systems from every technical standpoint. We intend to use analogue computers and other devices to test every portion of the free piston gas engine."

In 1961, Beck said, the company hopes to have from 50 to 100 units in a controlled field test, to be done in cooperation with a few gas utilities. Then, in 1962, Robertshaw plans to set up a regular production operation so it will be able to make firm commitments and applications with air conditioning manufacturers and have its units on field air conditioning systems for the 1963 cooling season.

Beck added that a recent report from the Battelle Institute and the company's own Eastern Research Center indicates that Robertshaw will be able to meet its schedule.

(A progress report on gas air conditioning will appear in the May 30 issue of the NEWS.)

Gaffers & Sattler Plans New Products, New Marketing Areas

LOS ANGELES—Utility Appliance Corp. will embark on a vast sales expansion program for its Gaffers & Sattler product division during 1960, it was announced by P. L. Chabre, vice president in charge of sales and marketing for Utility.

"Aside from promotional campaigns to introduce several new products," Chabre revealed, "we are also entering into new marketing areas for our appliances."

Among the new products to receive special advertising, sales promotion, and public relations, Chabre said, are a duct heater line and air conditioning equipment with several new features.

THROW YOUR COMPRESSOR *OUT!

*OUTSIDE, THAT IS!

KRAMER'S outdoor compressor is the *only* compressor designed to operate *outdoors* for *any* application under *all* temperatures and weather conditions.

Completely assembled, wired, tested and factory run-in, it arrives on the job ready to operate. Simple hookup eliminates costly installation and control adjustment time. Kramer's outdoor compressor ends waste of valuable indoor space.

WRITE FOR BULLETIN

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OUTDOOR COMPRESSOR

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46 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

Thinking of—

- **changing territories**
- **expanding your territory**
- **taking on new lines—**

Check the CLASSIFIED ADS

Your opportunity may be there.

Valance Heating, Cooling System To Be Tested In IBR Research Home

CHICAGO—A new valance heating and cooling system will be tested by the Institute of Boiler & Radiator Manufacturers at its new Research Home just off the campus of the University of Illinois.

The system was developed by the John B. Pierce Foundation, a plumbing and heating research organization. Among the characteristics of the new system are:

It works hydronically, comes in a package, and provides both heating and cooling.

It uses standard components such as finned tube, boilers, circulators, pipe, valves, fittings, and controls.

It is installed in a manner similar to present equipment.

The valance heating system consists of finned tube supported by brackets high on a wall and covered by a valance, the Plumbing-Heating-Cooling Information Bureau explains.

During the heating cycle, hot water circulated through the tube produces a thin layer of warmed air at the ceiling of a room. The air warms the ceiling which, in turn, radiates heat to the floor.

On the cooling cycle, the system circulates cold water through the finned tube. Air cooled by passing over the cold tube flows gently down the wall. Condensate moisture that forms on the element falls into a trough which hangs directly under the finned element.

In 2 Areas

Distributor A. C. Sales In January Top Previous Year

DETROIT — In at least two areas of the country, distributor sales of air conditioners in January topped the year-ago volume and were the second fastest sellers among appliances, according to utility and association reports.

Union Electric Co., St. Louis, reported that 10 distributors shipped 1,955 air conditioners to their dealers in the utility's territory in January. This was way above the total for January, 1959, when only 449 units were shipped. Only refrigerators (2,405) outsold air conditioners in the first month in that area.

In the Philadelphia area, distributor sales of air conditioners in January rose to 4,709 4,214 a year earlier, according to the local Electrical Association. This made air conditioners the second-best seller in the appliance field in the five-county area. Automatic washers topped the list with shipments totaling 5,600.

In the Greater Cleveland area, distributor shipments of room air conditioners in January declined to 171 from 236 a year earlier. However, shipments of central residential systems climbed from 9 last January to 24 this year, the Electrical League of Cleveland reported.

Cryogenic Conference Set for Aug. 23-25

BOULDER, Colo.—The 1960 Cryogenic Engineering Conference will be held here on Aug. 23-25 under the co-sponsorship of the University of Colorado and the National Bureau of Standards.

Papers for presentation at the conference are now being solicited dealing with the technical aspects of cryogenic engineering in the field below 150° K. The deadline for abstracts (not over 200 words) will be May 15.

Pre-registration information and a copy of the program will be available the latter part of July.

Comfort Cooling--Vital To New Ways of Life

Important part played by air conditioning in the expansion of certain parts of the U.S., and in changing working and living habits, has been brought to the public's attention in two recent magazine articles.

Called a Necessity For Arizona Boom

From the Feb. 15 *Time* magazine feature story "Arizona: Thriving Oasis. Energy Fills the Open Spaces."

"Phoenix cherishes another unique monument to desert progress: the downtown Fox theater, in 1931 the first building in town to install an air conditioning system. As mechanical air conditioners became cheaper, they eventually became a necessity for every business, standard equipment in homes.

"This simple piece of technology, now installed in automobiles, made the desert endurable year-round, made the vast reaches of Arizona a promising center for easy living."

* * *

Carl Carmer Tells Its Meaning to Alabama

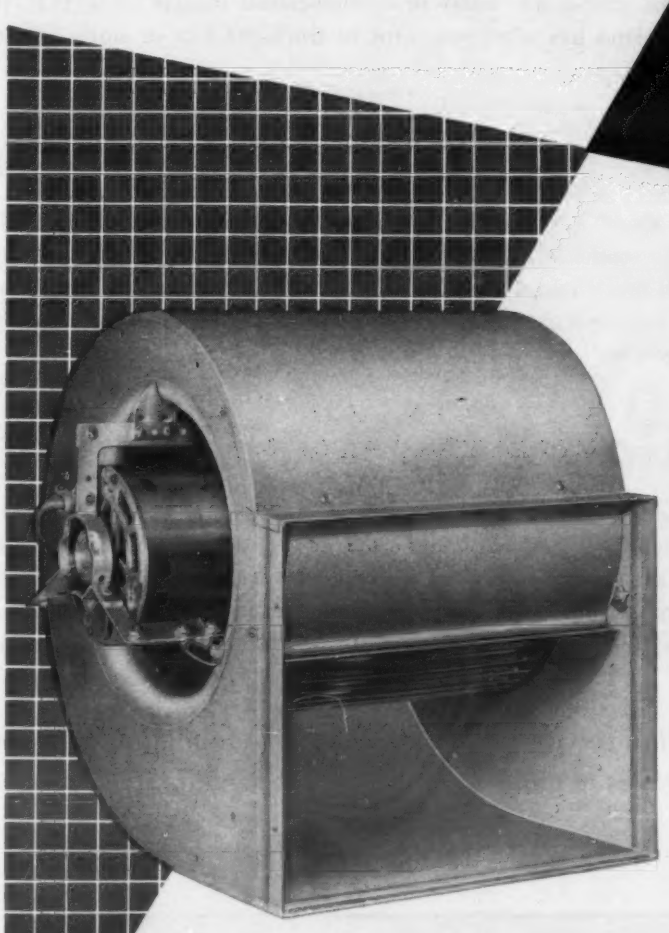
Carl Carmer, well-known author, in an article "Back to Alabama" in the March issue of *Holiday* magazine:

"There's a new spirit here," a Birmingham businessman told me. "The reason? Money for one thing. And in the wake of that—air conditioning. I know you used to think that heat gave Alabamians some of their characteristics—quick tempers but slow movements and slow minds. Well, now our offices, our stores, our homes, our automobiles are cooled through all the hot months.

"Nobody is exposed to the heat any longer than it takes to walk from an office building to his car. And in some companies the ten-thirty Coke break has become a coffee break—just like in New York City. An air conditioner costs no more than a television set. And I've seen one-room shacks that have both."

DIRECT DRIVE!

Another LAU "first in the Industry"



The Lau direct drive blower is designed for efficient operation in the smaller, more compact heating and air conditioning systems. This unit is especially practical where space is at a premium and lower component cost is desired.

Direct drive feature eliminates externally moving parts and results in a smaller, more compact unit having less vibration.

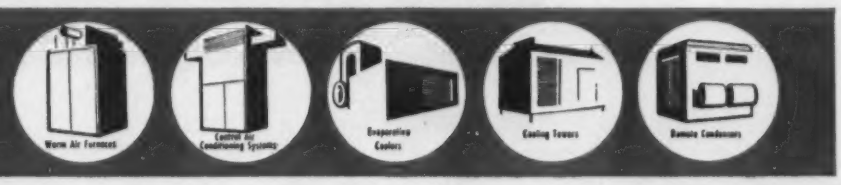
Lau direct drive blower assemblies are shipped ready for installation. Standard features include Lau-approved motor, thermo-overload protection, 30" motor leads, adjustable mounting brackets, oil tube extension and pre-punched housing for rapid installation. Available in a wide variety of C.F.M. ranges from 50 to 2490.

MEMBER INDOOR COMFORT

The Lau Blower Company, 2027 Home Avenue, Dayton 7, Ohio.

Other plants in Kitchener, Ont., Can., and Irwindale, Calif.

LAU World's Largest manufacturers of Air-Conditioning Blowers for



For air conditioning and refrigeration... Copeland has what it takes!

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From ⅛ H.P. Copelaweld Space-Savers to rugged, compact 30 H.P. Copelametics, there's a Copeland motor-compressor for nearly any application. If your need is for condensing units, choose air, water or suction-cooled models... ⅛ H.P. through 10 H.P. Copeland has what you want in truckload lots or single replacement products, thanks to...

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From ocean to ocean... wherever equipment is installed, there's a Copeland wholesaler nearby. He stocks *what* you need... he's ready to deliver *when* you need it. Each of 145 full-line wholesalers maintains inventories balanced to the needs of the area. Each one acts on a phone call in minutes because Copeland and your Copeland wholesaler believe in...

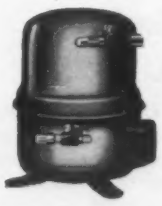
sales follow-through

Whether for a special application for missiles or a single-room air conditioner, Copeland and Copeland wholesalers offer the technical assistance that keeps customers satisfied. More than 30,000 refrigeration and air conditioning dealers and hundreds of equipment manufacturers buying Copeland products are testimony to the success of Copeland's all-inclusive manufacturing, distribution and follow-through program.

If you manufacture, sell or service refrigeration or air conditioning equipment, you'll find Copeland has what it takes to build and maintain dependability in products and profits.

SINCE 1918

Copeland REFRIGERATION CORPORATION,



COPELAWELD Space Savers, 1/8 and 1/5 H.P. ... Copelaweld welded hermetics, 1/2 through 4 H.P.

THESE COPELAND WHOLESALERS KEEP MORE THAN $3,000,000 IN COPELAND PRODUCTS *at your fingertips*

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† Refrigeration Supplies Distributor
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Hand Supply Company
Dothan — Phone: 4-3300
† Harris Supply Company
Mobile 6 — Phone: 2-0541
Nolin-McInnis, Inc.
Montgomery 3 — Phone: 7323

ARIZONA
* Pacific Metals Company
Phoenix — Phone: ALpine 8-7821

ARKANSAS
Central Supply Company
Fort Smith — Phone: SUnset 3-8155
† Refrigeration and Electric Supply Co.
Little Rock — Phone: FR. 4-6373

CALIFORNIA
† Pacific Metals Co., Ltd.
Los Angeles 22 — Phone: RAymond 3-5431
† Pacific Metals Co., Ltd.
San Francisco 7 — Phone: UNderhill 3-5600

CANADA
* Refrigerative Supply Ltd.
Calgary, Alberta — Phone: 92320
† R. & E. Refgn. & Heat. Specialties Ltd.
Montreal, Quebec — Phone: HU 95361
* R. & E. Refgn. & Heat. Specialties Ltd.
Toronto, Ontario — Phone: RU 7-1176
† Refrigerative Supply, Ltd.
Vancouver, B. C. — Phone: PAcific 4188
* R. & E. Refgn. & Heat. Specialties Ltd.
Winnipeg, Manitoba — Phone: WH 3-7576

COLORADO
† McCombs Refrigeration Supply Co.
Denver 17 — Phone: CHerry 4-6623

CONNECTICUT
* Melchior, Armstrong, Dessau Co., Inc.
Hartford — Phones: JAckson 2-7200
and JAckson 2-7204

WASHINGTON, D. C.
* Melchior, Armstrong, Dessau Co.
Phone: EXecutive 3-1218

FLORIDA
* Graves Broward Co. Inc.
Ft. Lauderdale
* Baker Bros. Inc.
Gainesville
* Baker Bros., Inc.
Jacksonville — Phone: 7-7414
† Graves Refrigeration Company
Miami 38 — Phone: FR 1-2783
* Baker Bros., Inc.
Orlando — Phone: 5-4671
* Graves Bros. Refgn. Supplies
St. Petersburg — Phone: 7-3460
* Baker Bros., Inc.
Tallahassee — Phone: 2-1576
† Graves Bros. Refgn. Supplies, Inc.
Tampa 2 — Phone: 2-8075
Butler Refgn. Supply Co., Inc.
West Palm Beach — Phone: 8171-2-3

GEORGIA
* Graves Refrigeration, Inc.
Albany — Phone: HEmlock 2-7021
† Graves Refrigeration, Inc.
Atlanta 12 — Phone: JAckson 2-3755
* Graves Refrigeration, Inc.
Augusta — Phone: 2-3562
* Baker Bros., Inc.
Brunswick
* Graves Refrigeration, Inc.
Columbus — Phone: 3-5702
* Graves Supply Co. of Macon
Macon — Phone: 2-5768-69
† Baker Bros., Inc.
Savannah — Phone: 4-5164
* Baker Bros., Inc.
Valdosta

ILLINOIS
* Polar Supply Corp.
Bloomington — Phone: 4-9245
† Chase Supply Company
Chicago 28 — Phone: PUllman 5-5125
* Chase Supply Company
Chicago 18 — Phone: COrnelia 7-4836
* Chase Supply Company
Chicago 22 — Phone: TAylor 9-3127
* Chase Supply Company
Chicago 21 — Phone: HUdson 3-2713
† Refrigeration Supply Jobbers, Inc.
Chicago 39 — Phone: CApitol 7-1098
* Polar Supply Corporation
Peoria — Phone: 4-9245
* Polar Supply Corp.
Quincy — Phone: BA 3-9750
* Gustave A. Larson Company
Rockford — Phone: ROckford 3-0471-2
* United States Electric Co.
Springfield — Phone: 2-7759
Rogers Refrigeration Supply Co.
Urbana — Phone: EM 7-6488

INDIANA
† Budlock Refrigeration Supply Co., Inc.
Evansville — Phone: HA 2-3204
* F. H. Langsenkamp Company
Fort Wayne — Phone: HArrison 2241
* Chase Supply Company
Gary — Phone: TUrner 6-1511
† F. H. Langsenkamp Company
Indianapolis — Phone: MElrose 6-4321
* F. H. Langsenkamp Company
South Bend 22—Phone: CEntral 38222
* Budlock Refrigeration Supply
Terre Haute — Phone: CR 3715

IOWA
White Refrigeration Supply, Inc.
Davenport — Phone: 3-2744
* Dennis Supply Company
Des Moines — Phone: ATlantic 88579
* Gustave A. Larson Co.
Dubuque — Phone: DUbuque 28926
† Dennis Supply Company
Sioux City 3 —Phone: 5-7637

KANSAS
† Superior Supply Company
Wichita 2 — Phone: AMherst 2-3421

KENTUCKY
† Brock McVey Refgn. Supply
Lexington — Phone: 5-2514
† S. W. H. Supply Company, Inc.
Louisville 2 — Phone: JU 79287

LOUISIANA
* Atlas Refrigeration Supplies, Inc.
Baton Rouge — Phone: 4-3746
* Thermal Supply Company
Monroe — Phone: 26155
† Acme Refrigeration Supplies, Inc.
New Orleans 19 — Phone: CAnal 7676
* Thermal Supply, Inc.
Shreveport

MARYLAND
* Melchior, Armstrong, Dessau Co.
Baltimore 1 — Phone: SAratoga 7-6358

MASSACHUSETTS
* Melchior, Armstrong, Dessau Co.
Watertown 72

MICHIGAN
† J. M. Oberc, Inc.
Detroit 3 — Phone: TOwnsend 9-6800
† Lifsey Distributing Company
Flint 3 — Phone: CE 4-1603
† Midwest Refrigeration Supply Co.
Grand Rapids 4 — Phone: GL 6-1517

MINNESOTA
* Refrigeration Wholesalers, Inc.
Duluth 2 — Phone: RAndolph 7-5047
† Refrigeration & Indus. Supply Co., Inc.
Minneapolis 2 — Phone: FEderal 2-8577
* Refrigeration Supply Co., Inc.
St. Paul 2 — Phones: CApitol 2-3673
and CApitol 2-3423

MISSISSIPPI
† Plumbing Wholesale Company
Jackson — Phone: 27623
Motor Supply Company, Inc.
Meridian — Phone: 26135

MISSOURI
† Superior Supply Company
Kansas City 8 — Phone: BAltimore 13334
† Authorized Refrigeration Parts Co.
St. Louis 10 — Phone: FRanklin 1-2773
† Hoffman Supply Company
Springfield 2 — Phone: 2-6711

MONTANA
* Temperature Supply Company
Billings — Phone: 20171-72
* Temperature Supply Company
Great Falls — Phone: GL 26016

NEBRASKA
* Dennis Supply Company
Omaha 2 — Phone: JAckson 2277

NEW JERSEY
* Melchior, Armstrong, Dessau Co.
Newark 4 — Phone: HUmboldt 3-7040
† Melchior, Armstrong, Dessau Co.
Ridgefield — Phone: WHitney 3-9500

NEW MEXICO
* M. & M. Refrigeration Supply Co.
Albuquerque — Phone: CHapel 7-4191

NEW YORK
* Melchior, Armstrong, Dessau Co.
Brooklyn 7 — Phone: MIdway 7-2600
* Melchior, Armstrong, Dessau Co.
Buffalo 4 — Phone: MAdison 0272-3
* Melchior, Armstrong, Dessau Co.
New York 16 — Phone: MUrry Hill 4-6080
* Melchior, Armstrong, Dessau Co.
Syracuse 2 — Phone: GRanite 3-0161

NORTH CAROLINA
* Henry V. Dick & Co.
Asheville — Phone: 33652
† Henry V. Dick & Company, Inc.
Charlotte 3 — Phone: EDison 3-6665
* Noland Company, Inc.
Kinston — Phone: 6171
* Noland Company, Inc.
Raleigh — Phone: TEmple 4-3471
* Henry V. Dick & Co.
Wilmington — Phone: 37551
* Noland Company, Inc.
Wilson — Phone: 6147
* Henry V. Dick & Co.
Winston-Salem — Phone: PArk 3-4396

NORTH DAKOTA
* Refrigeration Supply Co., Inc.
Fargo — Phone: 2-3204

OHIO
* Williams and Company, Inc.
Cincinnati 29 — Phone: 1-3000
* Williams and Company, Inc.
Cleveland 14 — Phone: UTah 1-5000
* Williams and Company, Inc.
Columbus 8 — Phone: AXminster 4-1623
† W. H. Kiefaber Company
Dayton — Phone: BAldwin 3-2192
* Williams and Company
Toledo 12 — Phone: KLondike 8661

OKLAHOMA
* Jones-Newby Supply Company, Inc.
Lawton — Phone: ELgin 5-1155
Jones-Newby Supply Co. of Tulsa, Inc.
Muskogee — Phone: MU-76101
† Jones-Newby Supply Company, Inc.
Oklahoma City 3 — Phone: JAckson 5-3541
* Jones-Newby Supply Co. of Tulsa, Inc.
Tulsa 3 — Phone: Gibson 77145

OREGON
* Peerless Pacific Company
Eugene — Phone: Diamond 4-6203
† Peerless Pacific Company
Portland 12 — Phone: ATlantic 8-5111

PENNSYLVANIA
* Melchior, Armstrong, Dessau Company
Philadelphia — Phone: LOcust 7-1516
† Williams and Company, Inc.
Pittsburgh 33 — Phone: CEdar 1-8600

SOUTH CAROLINA
* Baker Bros., Inc.
Charleston
† Noland Company, Inc.
Columbia — Phone: 3-7551
* Henry V. Dick & Co., Inc.
Greenville — Phone: CE 5-0433
* Noland Company, Inc.
Spartanburg — Phone: 3-2701

TENNESSEE
† Noland Company, Inc.
Chattanooga — Phone: AMhurst 7-1284
† Knoxville Refrigeration Supply Company
Knoxville 17 — Phone: 4-2505
† United Refrigeration Supply Company
Memphis 3 — Phone: JAckson 5-3788
† J. B. Thomas Company, Inc.
Nashville 3 — Phone: 42-6391

TEXAS
* Jones-Newby Supply Company
Amarillo — Phone: DRake 2-9292
* Thermal Supply Company
Austin — Phone: GReenwood 6-9143
* Thermal Supply Company
Beaumont — Phone: TE 2-3428
* Thermal Supply Company
Corpus Christi — Phone: TUlip 30853
† Climate Supply Company, Inc.
Dallas 26 — Phone: TA 7-5011
† M & M Refrigeration Supply Co.
El Paso — Phone: 3-2459
† Tersco, Inc.
Fort Worth 1 — Phone: EDison 2-6231
* Thermal Supply Company
Galveston — Phone: 5-5526
* Thermal Supply Company
Harlingen — Phone: GArfield 3-5810
† Thermal Supply Company
Houston — Phone: CA 8-0341
* Tersco, Inc.
Lubbock — Phone: FE 2-9458
* Tersco, Inc.
Odessa — Phone: FE 2-9458
† Thermal Supply Company
San Antonio — Phone: CApitol 5-7641
* Climate Supply Co., Inc.
Tyler — Phone: LY 3-6481
* Tersco, Inc.
Waco — Phone: 3-2432-3

UTAH
† Pacific Metals Company, Ltd.
Salt Lake City 4 — Phone: DAvis 2-3461

VIRGINIA
† Noland Company, Inc.
Newport News — Phone: 7-1241
* Noland Company, Inc.
Norfolk — Phone: MAdison 2-6541
† Refrigeration Supply Company
Richmond 20 — Phone: 3-2742
* Noland Company, Inc.
Roanoke — Phone: 45561

WASHINGTON
† Thermal Supply Company, Inc.
Seattle 1 — Phone: ATwater 2-6100
* Thermal Supply Co., Inc.
Yakima — Phone: GLencourt 2-9155
* Thermal Supply Co., Inc.
Spokane — Phone: FA 6-0412

WEST VIRGINIA
† Hiner Refrigeration Supply Co., Inc.
Charleston 2 — Phone: 3-9163 & 3-1493

WISCONSIN
* Gustave A. Larson Company
Eau Claire — Phone: TE 2-5405
* Gustave A. Larson Company
Green Bay — Phone: HEmlock 5-7433
* Gustave A. Larson Company
Kenosha — Phone: OLympic 2-1873
* Gustave A. Larson Company
Madison — Phone: ALpine 6-2686
† Gustave A. Larson Company
Milwaukee 1 — Phone: BR 6-5638
* Gustave A. Larson Company
Oshkosh — Phone: STanley 3844
* Gustave A. Larson Company
Wausau — Phone: 8-8118

† Complete Stocking Wholesaler
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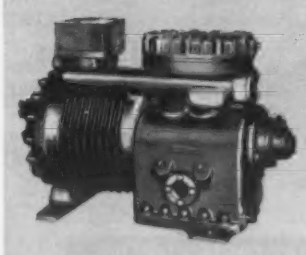

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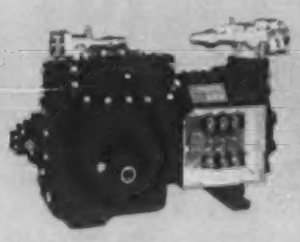
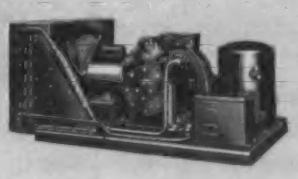
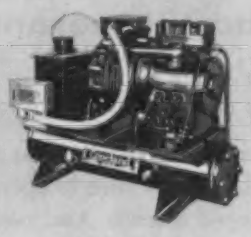


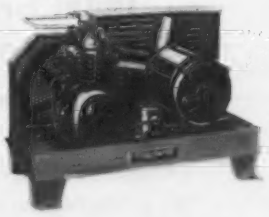
NEW, LARGER MOTOR-COMPRESSORS . . . . four and six-cylinder Copelametic accessible hermetics . . . . 7½ through 30 H.P.



COPELAMETIC AIR-COOLED CONDENSING UNITS . . . new compact design . . . ¼ through 3 H.P. . . . for trucks and other applications.



COPELAMETIC WATER-COOLED CONDENSING UNITS . . . new, compact design . . . ¼ through 7½ H.P. Also combination air and water-cooled units.



BELT-DRIVEN CONDENSING UNITS . . . air-cooled and water-cooled . . . ¼ through 7½ H.P. Also combination and truck-type units.

Sidney, Ohio

Manufacturers of performance-proved motor-compressors and condensing units for air conditioning and refrigeration

Orders Booked up 17%

Carrier First Quarter Sales, Earnings Moderately above Same Period Last Year

NEW YORK CITY—The annual meeting of Carrier Corp. held here was attended by more than 600 stockholders who were told by Cloud Wampler, chairman of the board, that first quarter net sales and earnings were moderately higher than those of the corresponding period a year ago.

Wampler also reported that orders booked were up by more than $8 million or about 17%.

For the three months ended Jan. 31, 1960 the figures were: orders booked, $58,401,000; net sales, $54,544,000; net profit, $499,000 or 14 cents per common share. The backlog of unfilled orders at the end of the quarter amounted to $87,565,000.

The comparable figures for the first quarter of 1959 were: orders booked, $50,048,000; net sales, $49,480,000; net profit, $396,000 or nine cents per share of common stock. As of Jan. 31, 1959 the backlog stood at $97,825,000.

Regarding the remainder of the year, Wampler stated: "Until recently the earnings of the corporation for fiscal 1960 were expected to be better than in 1959 in spite of the continuing cost-price squeeze. But the outlook is now less favorable largely because of labor union demands which, if acceded to, would place Carrier in an utterly impossible competitive position.

"At present all hourly and certain salaried employes of the Elliott Div., who are members of the United Steelworkers of America, are out on strike. How long this will last cannot be estimated.

"The Steelworkers also represent the hourly employes of the Bryant Div. in Indianapolis, where a mutually acceptable new union contract will probably soon be signed. And they recently became the bargaining agent for the production and maintenance employes of Carrier in Syracuse.

"The demands made by the Steelworkers in Carrier's headquarters city would impose an increase in the operating costs of the Syracuse divisions alone of $18 million annually not later than July of 1961. This is more than the profits before taxes of the entire firm in fiscal 1959.

"Obviously Carrier cannot yield to any such demands. And it will probably be difficult to reach reasonable areas of agreement. However, management is negotiating patiently and diligently in an effort to arrive at a sound contract.

"Were it not for these difficult union problems, Carrier management would be quite optimistic regarding fiscal 1960 as a whole. The principal reasons for optimism are:

"The elimination in recent months of four unprofitable operations; a further strengthening of the organization both internally and with respect to distribution; the consolidation of certain manufacturing activities; progressively better control over costs and expenses; the carry-over effect of the hot summer of 1959; some new and many improved products and generally expanding markets.

Commenting on Carrier's first quarter results, Wampler said:

"The increase in net sales during the three months ended Jan. 31 reflected higher shipments of both consumers' durables and capital goods. The substantially larger bookings were the result of a somewhat improved demand for heavy machinery and a continuation of orders for lighter equipment at satisfactory levels throughout the quarter.

"Regarding the decline of about $10 million in the backlog figure, this was practically all due to the sale in 1959 of two small divisions.

"The financial position of Carrier continues strong. Current assets at the end of January were five times current liabilities and there were no bank loans outstanding."

Forecast Says

$670 Billion To Be Spent for Building During Next Decade

NEW YORK CITY—The next decade will see the U. S. spend more money on new construction—$670 billion—than was paid out for that purpose in the previous 35 years, it is forecast by the professional building magazine *Architectural Forum*.

This coming expenditure far exceeds the total value of all goods and services produced by U. S. industry in 1959, the publication noted. It is more than twice as big as the national debt, and 60% more than the money spent on new construction during the 1950's.

Holding the building spotlight in the decade to come will be the trend of private non-residential construction, the magazine said. The annual rate of expenditures in this category is slated to increase 71.8% between now and 1970 to almost $15 billion. The total of this kind of building is expected to be $125 billion.

Forum's ten-year forecast for the major categories of private non-residential building construction: industrial, up 72%; commercial, up 48%; religious, up 11%; hospitals and institutions, up 62%.

Private residential building expenditures, while they will be larger than those for non-residential buildings, will rise only 27% to an annual rate of $28 billion by 1969, according to *Forum*. The total for the decade will be $248 billion, of which new dwelling unit construction will account for over $180 billion.

By the end of the next ten years, *Forum* says, total annual expenditures for new construction (in 1959 dollars) will be close to $80 billion—about 46% higher than in 1959.

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HANDWHEEL
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First Time Ever! Here's a handy new idea in refrigerant cylinders: a handwheel valve you simply turn to open, turn to close. No wrenches, no stripped threads. And, no leakage problems, because these new UCON Brand Refrigerant valves are made without packing. There's nothing to adjust or maintain! They're yours on UCON Refrigerant cylinders—at no increase in cost. *Ask Your Wholesaler Now* about UCON Refrigerants—first with conveniences for refrigerant users.

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Comfort-Aire

COMPRESSOR CONDENSER UNIT

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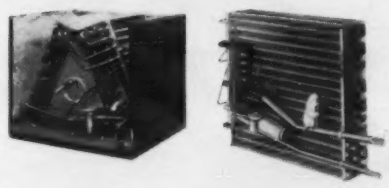
YOU'RE IN TWO BUSINESSES—RESIDENTIAL AND COMMERCIAL-INDUSTRIAL—WITH JUST

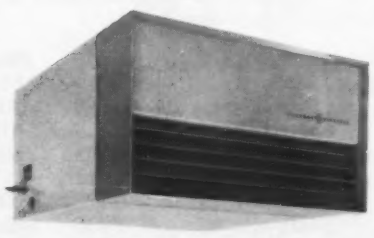
5 GREAT GENERAL ELECTRIC AIR CONDITIONING UNITS

Just 5 great General Electric units, installed singly, or in multiple, permit you to meet the air conditioning requirements of all types of homes, as well as stores, offices, motels, restaurants, small plants—all types of establishments that account for over 70% of all commercial and industrial air conditioning.

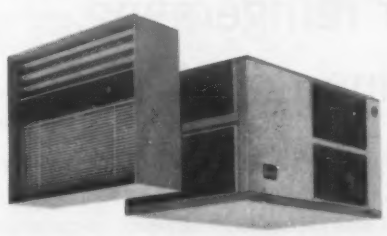
Remote condensing units—factory-sealed—air-cooled—weather-proofed. May be placed on roof, in attic or cellar, on outside slab or shelf. Use with G-E cooling coils or air handling units. Six models—2½ to 6 tons.



Cooling coils to convert warm-air furnaces into year 'round whole-house air conditioning. "A" type for low headroom, upflow or downflow. Flat type for upflow, downflow, horizontal. Five sizes: 24,000 BTUH to 60,000 BTUH.



Air handling unit includes blower, evaporator and filter. May be installed with ductwork, or without ductwork using optional diffuser shown. Used with remotely installed G-E air-cooled condensing unit. 2½ to 6 tons.



Packaged cooling unit – compact—air-cooled—self-contained. For use with or without duct. Decorative diffuser-filter frame for commercial in-space installation. Install in attic, crawl space, cellar, hallway—on roof, slab – through transom, wall. 2, 2½ and 3 ton sizes.

PLUS . . . Weathertron All-Electric Heat Pump – cools without water, heats without flame. Safest method of heating and cooling ever. All automatic. Capacities: split systems, 2½, 3 and 4 tons—self-contained, 2½ and 3 tons. Weathertron not available in all states.

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- More "over-the-transom" business comes to you when you become General Electric Air Conditioning headquarters for all types of jobs.
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For complete information on this great General Electric line and G.E.'s hard-hitting "Air of Satisfaction" program that makes it easy to buy and to sell it, see your nearest G-E distributor—or mail coupon today.

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Carrier Elects 2 Vice Presidents

SYRACUSE, N. Y.—Two key employes of Carrier Corp., Leon Hutton and Samuel Shawhan, have been elected vice presidents, it was announced by Cloud Wampler, board chairman.

Shawhan is president of Bryant Mfg. Co. of Indianapolis, a division of Carrier. He will continue in that position.

Hutton has been comptroller of the corporation since 1957 and continues in that capacity.

Woodman Elected President Of Upper Midwest Rses

ABERDEEN, S. D. — Larry Woodman, Jr., was named president of the Upper Midwest Regional Association of Refrigeration Service Engineers Society at the group's annual convention here.

Dallas Claims 545,874 Tons of Air Conditioning

Table 1—Air Conditioning, Central Systems Only Served by Dallas Power & Light Co.

	Residential		Commercial		Industrial		Others		Total	
Installed	**No.**	**Hp.**	**No.**	**Hp.**	**No.**	**Hp.**	**No.**	**Hp.**	**No.**	**Hp.**
Prior to 1945	158	941	707	21,106	52	2,863	8	378	925	25,288
During 1945	3	25	37	723	2	1,613	....	....	42	2,361
During 1946	25	274	106	3,937	1	32	....	....	132	4,243
During 1947	27	274	121	4,293	2	15	....	....	150	4,582
During 1948	128	784	248	8,581	9	276	....	....	385	9,641
During 1949	125	862	274	11,958	3	82	....	....	402	12,902
During 1950	227	1,800	268	8,668	5	161	2	75	502	10,704
During 1951	376	2,915	359	9,316	6	310	1	18	742	12,559
During 1952	625	4,441	390	12,721	14	591	2	116	1,031	17,869
During 1953	896	5,527	415	13,122	20	660	5	786	1,336	20,095
During 1954	1,373	7,730	516	12,623	19	3,573	3	172	1,911	24,098
During 1955	1,935	10,406	575	12,142	23	1,178	8	1,384	2,541	25,110
During 1956	1,861	9,969	555	17,032	19	981	4	1,116	2,439	29,098
During 1957	1,681	9,831	465	11,578	29	1,064	12	1,612	2,187	24,085
During 1958	1,811	9,601	473	17,814	12	4,162	11	1,041	2,307	32,618
During 1959	2,115	10,114	460	21,648	10	589	11	284	2,596	32,635
Total as of Dec. 31, 1959	**13,366**	**75,494**	**5,969**	**187,262**	**226**	**18,150**	**67**	**6,982**	**19,628**	**287,888**

Residential Systems Total 69% of City's Central Installations

DALLAS — This city of approximately 685,000 people has more than ¾ hp. of air conditioning installed for each resident. Total installed horsepower is 545,874, including central systems and room units in all types of installations, according to information compiled by Dallas Power & Light Co.

As shown in Table 1, residential central installations total 13,366, with the 2,115 installed during 1959 being the most ever installed in a single year. Residential systems account for 69.1% of total central systems in Dallas and 26.2% of the installed horsepower.

Commercial systems comprise 30.4% of central installations and 65% of installed horsepower. Commercial installations over the years average 34.5 hp. per job. Commercial horsepower installed during 1959 was the highest on record. Industrial systems average 80 hp. per installation and account for 1.2% of total installations and 6.1% of installed horsepower.

Room unit sales as reported in Table 2 are as reported by distributors and probably include sales outside the City of Dallas. 1959 distributor sales were up 17% over 1958, but slightly behind the totals run up in 1956 and 1957.

Evidence of the excise tax influence on room unit sales is quite apparent in Table 2a. Last quarter sales in 1959 totaled 7,497 against 1,822 in the last quarter of 1958.

* * *

Table 2—Room Unit Sales By Year—Dallas Power & Light Co.

1951	9,170
1952	15,508
1953	26,902
1954	32,299
1955	29,129
1956	34,433
1957	36,759
1958	29,047
1959	34,112
Total	**257,986**

* * *

Table 2a—Room Unit Sales By Month—Dallas Power & Light Co.

Month	**1958**	**1959**
January	1,119	2,174
February	2,986	3,202
March	3,158	4,073
April	3,235	2,524
May	4,691	4,257
June	6,778	6,039
July	2,005	1,828
August	2,391	1,672
September	862	866
October	666	2,582
November	885	2,648
December	271	2,267
Total	**29,047**	**34,112**

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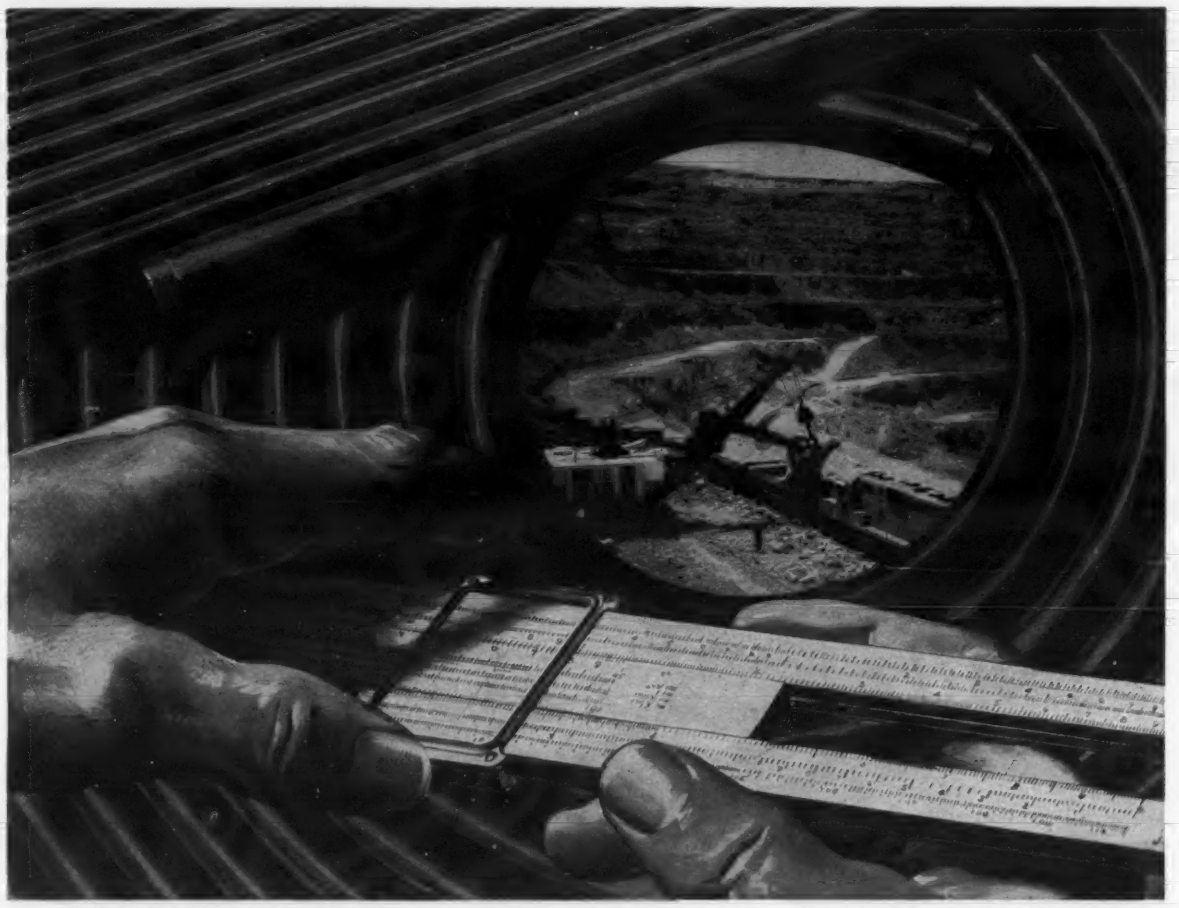
"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich. Only 25¢ each.



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3 Phelps Dodge can supply maximum tube lengths and precise wall thicknesses engineered to customer specifications; straight length tube tempered to meet bending and expanding requirements.

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Chains Shelled Out $115 Million To Air Condition 13,220 Stores In '59

NEW YORK CITY — Chain-store companies air conditioned 13,220 stores in 1959, and $115,800,000 was spent for these installations, according to a survey conducted by *Chain Store Age* magazine.

The survey is based on reports from 520 chains.

This sum is 12.4% greater than the amount spent for the same purpose in 1958, the survey indicates.

During 1959, according to the survey, 10,570 new chain stores were built and 12,250 were substantially remodeled; 13,220 of these were air conditioned—about 58% of the total.

In the food chain field, 3,400 stores were air conditioned in 1959—about 76% of the number that were opened or remodeled, *Chain Store Age* reports.

Virtually every new chain variety store was air conditioned in 1959, and a great many substantially remodeled stores were air conditioned as well. The survey shows that in all, a total of 1,500 air conditioning installations were made in chain variety stores during the year—a number representing more than 80% of the 1,870 chain variety stores that were opened and remodeled in 1959.

Just about every one of the 550 new chain drugstores built in 1959 was air conditioned, and air conditioning installations were made in an extremely high percentage of the 650 chain drugstores that were substantially remodeled. In all, 1,050 chain drug units were air conditioned in 1959—87.5% of the total of new and remodeled stores, the survey discloses.

In the restaurant chains, air conditioning was installed in 1,800 out of 2,900 new and remodeled stores in 1959 — 62%.

In the 1,500 chain apparel stores that were built and remodeled in 1959, the *Chain Store Age* survey shows that 900 air conditioning installations were made—60% of the total.

In the auto supply—hardware field, according to the survey, 870 stores were air conditioned —60% of the 1,450 new and remodeled stores.

The general merchandise—department store chains reported a total of 500 air conditioning installations in 1959, according to the survey. This represents 42% of the 1,200 stores opened and remodeled.

Chains in other fields accounted for 3,200 air conditioning installations. The survey indicates that this represents 39% of the total of 8,200 stores that were opened and remodeled during the year.

Remodeling of older stores usually calls for the installation of air conditioning equipment. In the face of increased competition, however, many stores are being remodeled a relatively short time after they were opened; these units were usually air conditioned when they were built, it was noted.

The *Chain Store Age* survey has been made each year since 1949, following the same procedure. Reports from chains are the sole basis for the estimates.

However, a conservative guess may be made that an additional expenditure of about $30,000,00—about 25% of the total—was not reflected in the reports. This additional sum would account for some of the expenditures made by landlords on behalf of the chains—expenditures on which a number of chains could make no accurate reports, it was stated.

Bennett Promoted To Marketing Post At Warren Webster

CAMDEN, N. J. — Appointment of Don F. Bennett as assistant vice president of marketing of Warren Webster & Co., Inc., has been announced by Andrew F. Ward, vice president of marketing.

Bennett has had more than 35 years of experience in the air conditioning and heating equipment industry. Of these, 18 years have been devoted to the Webster organization.

He has served the firm as manager of the Radiation & Unit Heater Div. and in this position had primary responsibility for the development and introduction of Webster baseboard radiation. Since that time he has held executive positions in sales and marketing.

Ward also announced that James J. Bubser has been appointed product sales manager for radiation and steam specialties, two of the firms nationally distributed product lines. Bubser has been associated with the Webster firm since 1950, serving in various engineering and sales capacities, including regional sales manager.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

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CONTROLLING FLOW SINCE 1914

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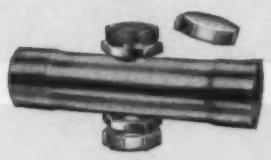
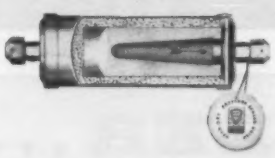
"DRI-VUE" Moisture-Liquid Indicators
"DRI-COR" Filter-Driers Molded Core
"GOLDEN BANTAM" Diaphragm Packless Valves

"DRI-VUE" INDICATOR PORT
Actually Spells "WET" or "DRY" with element Color Variation—Largest Visible Element Area.

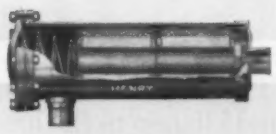
"DRI-VUE" INDICATORS
Double Port Moisture-Liquid Indicators, Large O.D.S. Sizes. Triple Sealed Ports.



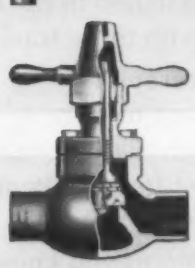
"DRI-COR" FILTER-DRIERS
Two Stage Drying; Molded Core and Granular Desiccant. Abso-dry Processed.



"DRI-COR" Cartridge DRIERS
Molded Filter Core and Granular Desiccant. Split Second Cartridge Installation.



SHUT-OFF VALVES
Packless and Packed with Flanged and Integral Connections. Wide Range of Sizes and Types.



Only Henry offers you this complete variety of types and sizes, from ¼" flare packless to 4⅛" O.D.S. packed Wing Cap valves, from 1 ton sealed type to 165 ton cartridge type filter-driers and ¼" flare single port to 2⅛" O.D.S. double port moisture indicators.

HENRY VALVE COMPANY
For Refrigeration, Air Conditioning and Industrial Applications
MELROSE PARK, ILLINOIS, U.S.A. CABLE: HEVALCO, MELROSE PARK, ILL.

KEEP IT CLEAN!

VAPCO-PHOS NUGGETS

For complete protection against recurrence of scale, rust, corrosion, algae and slime. Nuggets dissolve uniformly and slowly for long-term protection. Apply by hanging in spray, submerging in sump, or through a feeder. Plastic feeder bags supplied with 3 and 10 lb. cans. 50 and 100 lb. drums also available.

VAPCO-SLIME-X

For positive control of algae and slime. Harmless to wood or other parts of system. 10 ounce cans and 25 pound drums.

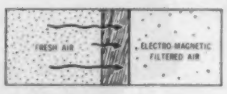
Vapco QUALITY PRODUCTS
Complete literature on request or see your dealer TODAY!
GARMAN COMPANY
ST. LOUIS 25, MO.

In Room Air Conditioners Kelvinator Gives You A Lot More Than Price To Sell...With The

BIG PLUS

Electro-Magnetic Filter and Filtermatic Signal

Normal Filter Operation



Electro-Magnetic Filter Operation

Clean Filter — Dirty Filter
Filtermatic Signal

To make prospects buy, this exclusive Kelvinator combination provides the most advanced filtering of all . . . does everything but clean the filter for the customer!

The Electro-Magnetic Filter removes over 95% of airborne dirt, dust, and pollen *electrostatically* —as compared with up to 65% for ordinary filters—and its permanent, washable Scottfoam filter element kills germs as well! To maintain this remarkable efficiency, Filtermatic Signal *automatically* shows when the filter needs cleaning!

Your customers enjoy the finest air cleaning, as well as the finest air cooling, at all times!

With this Big Plus from Kelvinator, you can get out of profitless price competition . . . and sell quality and value *at a profit!* For complete information on Kelvinator's full line of room air conditioner models, contact your local representative today.

And Kelvinator Gives You Still More to Sell!

ALL-METAL FRONT FOR PERMANENT BEAUTY • TWO-DIRECTIONAL AIR FLOW
EXTRA COOLING WITH "BALANCED-COMFORT" DESIGN • SLEEPING-QUIET OPERATION
EXTRA HUMIDITY REMOVAL WITH "BALANCED-COMFORT" DESIGN • FILTERED FRESH AIR

There's a SALES PLUS for you in every appliance made by

Kelvinator

DIVISION OF
AMERICAN MOTORS CORPORATION
DETROIT 32, MICHIGAN

Refrigerators, Freezers, Electric Ranges, Washers, Dryers, Air Conditioners, Dishwashers, Water Heaters, Disposals, Dehumidifiers

Inside Dope

By GEORGE F. TAUBENECK

(Continued from Page 1, Col. 1)

KLM probably is the world's most efficient airline. This writer, and many others in our industry, prefer it to almost any other international transit service you can name.

Moreover:

Holland lives by selling services. That's why, in terms of fair play and common sense, our bureaucrats should have listened favorably to her petition.

British Overseas Airways, Scandia, and Air France already operate from our Pacific Coast directly to Europe, and KLM merely wanted a fair go at this traffic.

Their case for getting such consideration is extraordinary. Every year The Netherlanders import from the United States approximately double the value of the goods they sell us.

In balance of trade, no European state favors us more.

Examples: All of KLM's planes are bought here; the company is 30 per cent American-owned; many of the pilots are American.

But these considerations were tossed aside, and the adverse decision was made on a technical point.

No wonder the Dutch press is urging such reprisals against the United States as getting out of NATO, cancelling all orders now standing for U.S. jet airliners, substituting French military aircraft for American Starfighters, etc.

American exporters of air conditioning, heating, and refrigeration are alarmed, too.

This affects all of us, because it damages our industry's welfare as well as America's international position. Write your Congressman today!

What Price Growth?

If an increase in economic growth is urgent—as brayed by certain politicians—it's well to recall that growth isn't costless.

Growth may require reduced consumption, less leisure, more rapid obsolescence of skills and capital, and turbulent inefficiency.

In short, mere growth *for the sake of percentages* may cost more than it's worth.

That is the position of the U. S. Chamber of Commerce. Its Committee on Economic Policy has published, in this connection, a significant report on *"Economic Growth: Prospects, Costs and Conditions."*

Without advocating specific policies, the report puts the whole "expansion" issue in perspective.

It's intended to provide a fruitful foundation for intelligent discussion.

Indirectly, the report answers those growth zealots who urge a policy of "the more growth the better"—without regard for its costs or consequences.

The Chamber of Commerce comments:

"Growth is a good thing. No one would dream of being anti-growth. But it does not follow that the more of a good thing, the better.

"Expansion isn't free of charge; its costs rise disproportionately with its rate, and with its non-guaranteed benefits."

"The prime interest in economic expansion should be individual well-being, rather than a major accent on output and power for power's sake," concludes this pamphlet.

Story of the Week

Chief of a newly independent "state" in the interior of Africa had acquired political savvy.

"First," he explained to his assembled constituents, "we'll accept Communist China's offer of a tractor and 200 technicians.

"Then Russia will send us 10 tractors and 100 technicians. After that we can blackmail America for 100 tractors and 10 technicians.

"We'll be in clover, then. We can eat the technicians and sell the tractors."

Gags of the Week

Today we don't pray so much for our daily bread as for strength to stick to our diet.

Trouble with being a good sport is that you have to lose to prove it.

Like the headlights of an oncoming car, the faults of others only seem to be more glaring than our own.

Men who blazed trails through trackless wilderness apparently have sired great-grandchildren who get lost in a supermarket.

One thing about the so-called population explosion. You can't say:

"Everybody talks about it but nobody does anything about it."

More Newspaper Boners

In lieu of flowers contributions may be made to the Association for the Health of Retired Children. — *Syracuse Herald-Journal.*

Cpl. Smith was named as the best grilled cadet of the ROTC unit.—*Macon* (Ga.) *Telegraph.*

He said numerous residents converted their homes from cesspools to the town's sanitary sewers. — *Phillipsburg* (N. J.) *Phillipsburger.*

Families will be asked to complete the form and give in to the census taker.—*San Diego Evening Tribune.*

"Some of us should have stood that there really should have up." Thorpe said ruefully yesterday. "Nobody did."—*Detroit News.*

At some time during the concert all were struck by the same thought—wouldn't it be fun to go backstage and try out their high school Russian on the musicians. It would improve their teacher, Ralph N. Deal, they were sure.—*Detroit News.*

Last Gasp

In an upstate Michigan newspaper we note that a widower has donated a loud-speaker system to his church.

It's an *In Memoriam* to his late wife.

Wagner Vertical Solid Shaft Motors . . .

POWER PACKED PUMP DRIVES

Got pump-power problems? You can solve them—simply, easily—with Wagner Vertical Solid Shaft Polyphase Motors. These motors are designed especially to meet the load conditions of pumping. They handle loads without laboring or stalling . . . are smooth running under cyclic loads. They are uniquely suited, too, for other types of equipment that require vertical motor drives. Match them to agitators, axial fans, centrifuges, mixers, presses . . . anywhere you need a vertical shaft motor.

Whatever the application, one thing is sure . . . Wagner advanced design engineering has produced vertical shaft motors of simple, rugged cast-iron construction . . . motors with plenty of stamina to give you economical, maintenance-free service the year 'round, indoors or out.

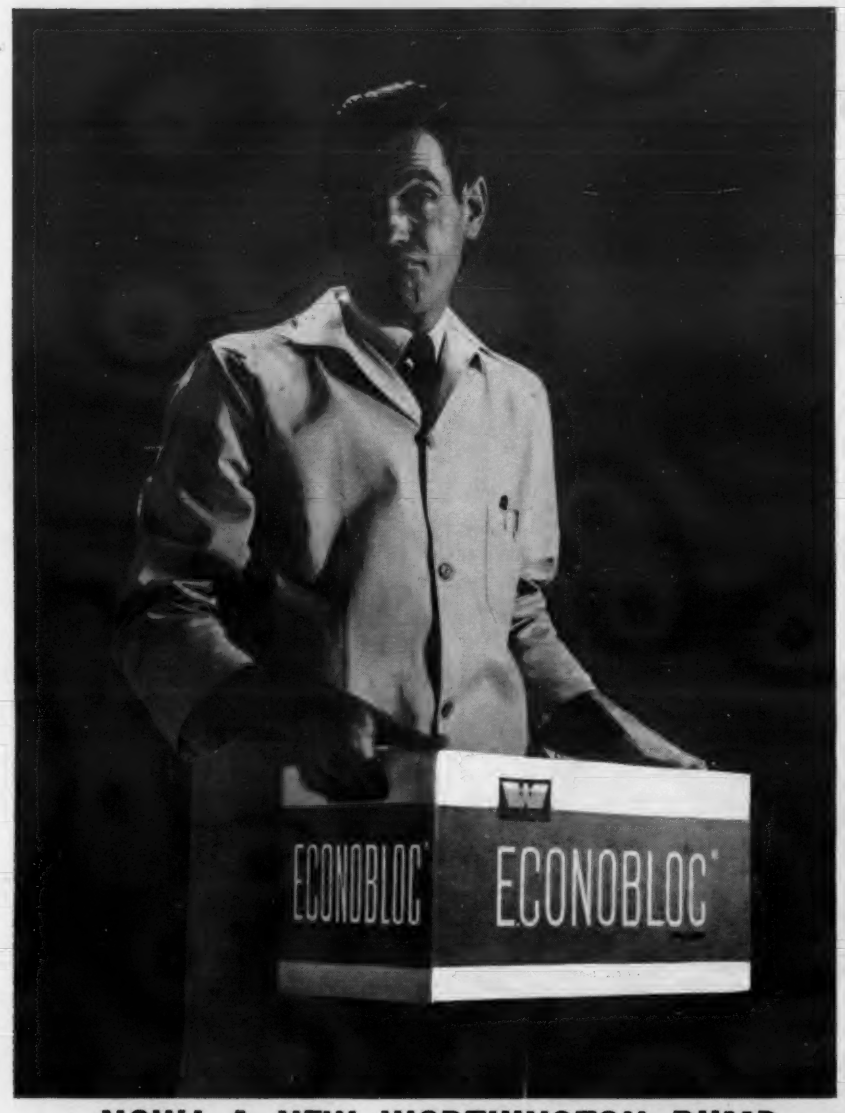
Wagner Vertical Solid Shaft Motors are end-mounted, squirrel-cage type with NEMA Type "P" base. They are available in standard ratings of 60 cycle, 208-220/440 and 550 volt, 1½ through 40 hp—3500 RPM, and 1 through 30 hp—1750 RPM. For information on larger horsepower ratings, call your nearby Wagner Sales Engineer.

Other motor requirements? Wagner can supply standard motors or build special motors to fit your needs. More than 65 years of constant research and development in electric motor design has made Wagner a name you can depend on. For an analysis of your next motor application, be it for plant or product call on Wagner. There are 32 branch offices in principal cities across the country.

Wagner Electric Corporation
6441 Plymouth Ave., St. Louis 33, Missouri

WH60-4

SERVING 2 GREAT GROWTH INDUSTRIES — *ELECTRICAL — AUTOMOTIVE*



NOW! A NEW WORTHINGTON PUMP... WITH WORTHINGTON QUALITY...

AT A VERY INTERESTING PRICE!

THE NEW ECONOBLOC PUMP has been designed by Worthington to do just one thing: to give you a more economical installation.

The Econobloc pump gives you Worthington quality throughout . . . at a competitive price. You save money, too, because this new pump is carried in stock in 7 Worthington warehouses across the country (Roselle Park, N. J., Atlanta, Cleveland, St. Louis, Chicago, Houston and Los Angeles).

All prices are F.O.B. warehouse.

The Econobloc's packaging is a real time saver. The package is attractive, light weight and easy to handle.

After the pump is installed you can count on years of trouble-free life in the best Worthington tradition. In the rare event that trouble occurs, warranty service is provided from each regional warehouse.

The new Econobloc pump is stocked in 6 sizes in the fractional horsepower range that delivers up to 110 gallons per minute and 115 feet in head. Additional sizes go up to 7½ horsepower. For more information write to Worthington Corporation, Section 20-11, Harrison, New Jersey.

WORTHINGTON

Multizone System Provides Air Conditioning For 16-Story Los Angeles Office Building

LOS ANGELES — Multizone and air handling units manufactured by Recold Corp. will provide the air conditioning for the new world headquarters of Signal Oil & Gas Co. in downtown Los Angeles, Recold reported.

The modern 16-story office structure is being built at a cost in excess of $5,000,000 and will be ready for occupancy in mid-1960.

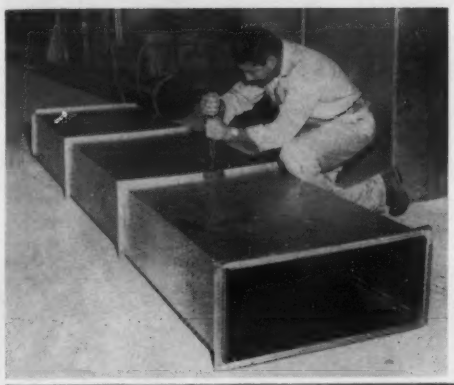
The air conditioning system was designed to provide a maximum 17° temperature differential between the inside and outside air. The executive offices for the building, located on the 16th floor, utilize a completely separate air conditioning system, calling for a full 20° temperature differential.

The multizone units servicing the executive floor utilizes Refrigerant-12, while the rest of the building is installed with a chilled water system. Recold multizone units are also placed on the mezzanine, and each odd-numbered floor up to the 15th story.

Three Recold air handling units were chosen to pull fresh air into the building. The air supply to the building is filtered by activated charcoal, eliminating 85% of the impurities from the outside air, it was stated.

Installation was simplified with use of aluminum air conditioning ducts. The light weight material was said to make it possible to handle 12-ft. lengths easily.

The air conditioning was designed and installed by the Western Air & Refrigeration Co. of Los Angeles, under the supervision of C. L. Peck, the contractor. Charles Luckman & Associates was the architect.



FOUR-FOOT LENGTHS of aluminum duct are locked together to form a section of duct for the Signal Oil building in Los Angeles. The ducting was installed by Western Air & Refrigeration, Inc. for a 434-ton air conditioning system. Aluminum duct sheet—in thicknesses from .025 to .051 in.—was supplied by Kaiser Aluminum & Chemical Sales, Inc.

THE LIGHT WEIGHT of aluminum air conditioning duct is illustrated here, as a workman easily lifts a 12-ft. section. One man also can hold the section overhead as he secures it to straps.

ALUMINUM air conditioning duct's light weight makes it easy to hold up a 12-ft. section as it is attached to straps. This system was designed to carry 160,000 c.f.m. circulating air.

Buffalo Forge Played Big Role In Building Missile Carrying Ship

BUFFALO — The Navy credited Buffalo Forge Co. with having played "an important role" in the construction of a new missile-carrying destroyer, the *USS Dewey*.

Buffalo Forge, the Navy said, supplied the big ventilation fans and the forced-draft blowers that are built into the ship.

Included in the ventilating equipment ordered from the company were 55 axial-flow fans for general ship ventilation and air conditioning, three centrifugal fans used in space ventilation, and four centrifugal fans for the forced-draft blowers that are used when the ship is in port.

The Dewey is the first of the Navy's newest and largest destroyer-class ships and the first destroyer designed and built to carry missiles.

DESIGNED
TO
DELIVER
Other large plants may deliver a variety of products but Viking's spacious, modern plant was designed and built from the ground up for one specific purpose: the production of thin-wall copper tube of unsurpassed quality.
The equipment in the plant whether for fabrication or testing is of special design, built to Viking specifications, or by Viking itself.
So it is with the people of Viking. Each worker is specially trained for a single job — his part in the production of thin-wall copper tube for the leading makers of refrigeration and air conditioning equipment. The entire Viking production team — factory, facilities, men — work to a tradition that demands the best. Is there a better way to insure quality?
VIKING
COPPER TUBE CO.
CLEVELAND 10, OHIO

All New
HI-LO VALVE
IT'S ECONOMICAL BECAUSE THERE'S ONLY ONE SIZE!
Saves time and effort while charging or purging systems, or taking guage readings. Available from your local wholesaler. Write us for details.
HI-LO VALVE MFG. CO., INC.
P.O. Box 3262 Okla. City, Okla.

How long has it been since you re-evaluated your compressor source?

NOW! YORK OFFERS WIDEST LINE OF COMPRESSORS TO MEET EXACT NEEDS OF ORIGINAL EQUIPMENT MANUFACTURERS!

Applications Unlimited—Whatever type of air conditioning or refrigeration equipment you build...commercial refrigerators, frozen food cases, display cabinets, water coolers, vending machines, air conditioners, ice-makers, home refrigerators and freezers...York has the right compressor or condensing unit to meet your specific requirements.

Every Unit Factory-Tested—To assure long, trouble-free operation in your equipment, *every* unit is subjected to a thorough running test. Dozens of quality control checks are made on every York compressor. This kind of precision manufacture and careful attention to detail pays off in dependable operation and more satisfied customers for you.

Backed by 75 Years' Experience—York has been a leader in the refrigeration compressor field since 1885. The distilled knowledge of 75 years experience goes into every York compressor. In addition, the vast research facilities of Borg-Warner stand behind every York unit. Before placing your next contract, it will pay you to contact York!

RELIABILITY BUILT-IN

Automotive-type piston rings for continuously high performance

Large-size mufflers, internal isolation, external spring or rubber mounts for extra-quiet operation

Motor windings insulated with acrylic plastic to withstand higher temperatures as in heat pump applications

Motor is suction gas cooled for maximum operating efficiency

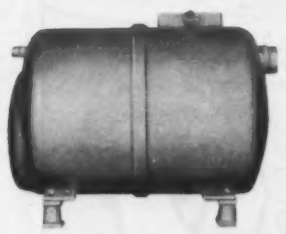
Forced-feed oil pumping system insures positive, continuous lubrication

Die cast aluminum alloy compressor body, upper main bearing plate, pistons and connecting rods for light weight and strength. Heavy-walled cast iron cylinder liner

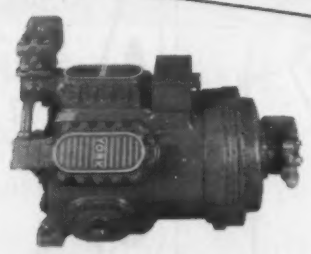
Designed for Refrigerant 12 and 22

83 Basic Models—⅓ to 250 HP For Any Air Conditioning and Refrigeration Application

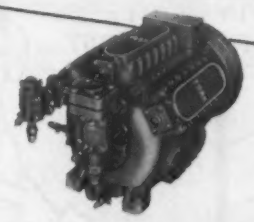
VERTICAL HERMETIC COMPRESSORS—⅓ to 3 HP
Twin cylinder, compact, ultra-lightweight, high performance, unique time proven design. Powerful, dual-thrust units.



HORIZONTAL HERMETIC COMPRESSORS—1½ to 8¼ HP
Welded units with 3, 4 or 6 cylinders. Special designs for high ambient service cooling coil equipped for low temperature applications.



ACCESSIBLE HERMETIC COMPRESSORS—10 to 45 HP
Compact design delivers more capacity per cubic foot of installation space—has built-in motor protection.



INTERNALLY COMPOUNDED HERMETIC COMPRESSORS—¾ to 17 HP
For low temperature jobs to –70°F. High and low stage, interstage, heat exchanger all in one compact unit. Only York has it.

V/W COMPRESSORS—5 to 250 HP
Automatic step unloading down to 25% capacity with power savings in almost direct proportion to product load.

YORK® YORK B·W DIVISION®

YORK CORP., SUBSIDIARY OF BORG-WARNER CORP.

BORG-WARNER RESEARCH & ENGINEERING MAKE IT BETTER

AHR-3

Sales Manager
O.E.M. Sales Division
York Corporation, York, Pa.

Please send complete product information on York Hermetic Compressors and Condensing Units.
☐ Vertical ☐ Horizontal ☐ over 10 h.p.

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

Air-Cooled Packaged Units Gaining Strong Market In Lower Cost Housing

Observer Sees Them Particularly Suitable for California Climate

DAYTON—As the statistics will show, and as dealers handling residential air conditioning well realize, the air-cooled split system has apparently run away with the market in the past couple of years. But in certain climates and in certain kinds of applications, the air-cooled packaged unit is still going strong, and if the mass market in lower cost housing opens up, there are some who see the packaged job giving the split system a battle.

One such observer is Syd Anderson, veteran industry sales executive who for a number of years headed up Airtemp's packaged product department, and who recently was named manager of Airtemp's West Coast branch headquartering in Los Angeles. What he has seen since concentrating his efforts in the Far West has convinced him that the packaged air-cooled unit holds some of the answers on many kinds of residential jobs.

"While a good part of what is being done can be attributed to the climate or the type of construction, it does seem that dealers in the Far West and Southwest are ready to try new or different ways of doing something. And by so doing, they often open up a bigger market.

"With the packaged units, they haven't been afraid to 'hang the unit' on the side or back of a house. If there isn't a window or ventilating louver or other aperture through which they can put the unit, they aren't afraid to cut the necessary opening.

"The fact that there isn't always a ready supply of the kind of mounting brackets that they need to hold the condensing unit section in place hasn't stopped them. They've designed their own out of band iron and in many instances make up their own brackets."

One obvious advantage of the air-cooled packaged unit is that it just about eliminates the problems encountered in hooking up the cycle in a split system, and in so doing effects a considerable savings in cost. Anderson thinks considerable savings are probably realized in the air distribution system.

"Where the unit is installed in the attic space, or at least at the top of the living area, the ductwork can be made relatively simple, using overhead or high-wall diffusers, with generally a single return. If a couple of duct runs are eliminated, and the estimated average cost of $35 per run holds true, it can be seen that a high percentage of cost is saved right there. And I believe that there are a number of other savings that are made in the installation beyond these somewhat obvious ones."

The question was raised as to whether homeowners might not have strenuous objections to having an obvious piece of machinery hanging off of their outside walls. Anderson wonders whether this is any more objectionable than having a condensing unit resting on a foundation in the yard.

"Another big market for the air-cooled packaged unit is the apartment house field, particularly the one or two-story court apartment found in the West," Anderson says. "With this application, the question of appearance is practically no factor.

"Then too, if the owner can be sold on a reverse cycle system he is offering the tenant the most modern type of air conditioning. And a 2-hp. unit will handle the heating and cooling requirements—in a California type climate anyway—for an 800-sq. ft. apartment in a very satisfactory manner.

And, of course, the air-cooled packaged unit is the perfect replacement for the evaporative type cooler—whether it was mounted on the side of the house or on the roof. In many of these replacement jobs, existing ductwork is available, and can be used with some alterations and perhaps a "clean up" job.

REAR VIEW of completed homes in Oak Park Mesa subdivision showing roof installation of Airtemp model 1103 packaged air-cooled unit.

350 Homes In Arizona Tract Get Them

MESA, Ariz. — Because they proved out their popularity when offered as optional equipment in another project, roof-mounted packaged Airtemp air-cooled air conditioners are being installed in all 350 homes in the Oak Park Mesa subdivision being built here by the Ellis Suggs Construction Co.

In a Phoenix tract the Suggs Co. had offered the Airtemp model 1103-5 air conditioners as optional equipment on 50 homes. When 46 purchasers of these first 50 homes in the tract chose to have their homes air conditioned, the builder made the installation standard in the remaining 100 homes.

In the Oak Park Mesa subdivision the Suggs Co. has started construction of 350 homes, to be equipped with the roof-mounted air-cooled packaged units. Installation of the units is being made under the direction of Paul Schoonover of Arizona Air Conditioning Co.

However, the dealer points out that split systems continue their popularity too. D. D. Castleberry, Phoenix builder who installed more than 100 of the Airtemp 200 series and furnaces in split system installations, is planning a 250 to 300-home tract in Mesa, in which he plans to install split-system air conditioning.

DISTRIBUTOR DAN AND
THE CASE OF THE H-6 LEAK DETECTOR
WHY A HALOGEN REFERENCE SOURCE?
"IT'S SIMPLY OIL MIXED WITH HALOGEN GAS. THE HALOGEN RELEASED INTO THE SPACE ABOVE THE OIL GIVES THE EQUIVALENT OF ABOUT ½ OZ LEAK PER YEAR."
"WHY THE PARTIALLY FILLED BOTTLE OF OIL IN THE H-6 MAINTENANCE KIT?"
AIR CONDITIONING & REFRIGERATION SERVICE
THE REFERENCE SOURCE SHOULD BE USED IN A HALOGEN-FREE ATMOSPHERE. TO ADJUST SENSITIVITY—FIRST TURN THE KNOB TO MAXIMUM...
THEN, OPEN THE BOTTLE, INSERT PROBE FOR A SECOND... BUT NEVER ALLOW THE TIP TO TOUCH OIL. USUALLY YOU'LL GET ONE OR TWO LONG FLASHES, BUT...
...TURN KNOB DOWN SCALE AND REPEAT TEST UNTIL YOU GET ONE SHORT FLASH...
AND IF YOU RECAP THE BOTTLE IMMEDIATELY YOU'LL BE ABLE TO USE THE OIL ABOUT 100 TIMES.
NEVER DEMONSTRATE WITH A TANK OR CAN OF REFRIGERANT. WITH THAT HEAVY CONCENTRATION, ALL SENSITIVITY COULD BE LOST IN A MATTER OF MINUTES.
NOW YOU SEE "WHY A HALOGEN REFERENCE SOURCE"... WITH IT YOU CAN ADJUST THE H-6 LEAK DETECTOR TO PICK UP LEAKS OF ABOUT ½ OZ A YEAR AND LARGER.
Watch for more tips from Distributor Dan and...
FOR MORE COMPLETE INFORMATION ON THE TYPE H-6 LEAK DETECTOR, CONTACT YOUR NEAREST AIR CONDITIONING AND REFRIGERATION WHOLESALER: OR SEND THIS COUPON TODAY FOR BULLETIN GEA-6827, TO GENERAL ELECTRIC COMPANY SECTION 595-409 SCHENECTADY 5, N.Y.
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NAME
ADDRESS
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STATE
INSTRUMENT DEPARTMENT
GENERAL ELECTRIC

the quality tells . . . the quality sells

new JANITROL

WIN-SUM-MATIC

year 'round
air conditioner

COMPACT . . .

Fits in as little as 3⅗ square feet!
Features Dura-Tube Gas Heating Heart
and powerful air-cooled cooling.

WIRE US COLLECT FOR PROOF

THE PROFIT PARADE IN THE 60'S WILL BE LED BY **JANITROL SELECT DEALERS!**

Paced by the exclusive *Janitrol Select Dealer Plan* that gives you *action* in place of promises... adds vital new depth and dimension to your *Growth and Profit Future!*

check-out the highlights!

1 **The Finest Factory Technical Training Program** in the industry . . . tuition-free for Select Dealers!

2 **Personalized Dealer Management Services** . . . expert guidance in all phases of management, including sales training, recruiting, accounting, advertising, and engineering available to Select Dealers at no cost!

3 **Dealer Information Service** . . . authoritative newsletters, bulletins and periodicals keep Select Dealers up to date on latest developments in equipment, applications, service and merchandising slants!

4 **Regular Regional Meetings** . . . bring Select Dealers and Janitrol personnel together for stimulating discussions of merchandising, management, engineering and other subjects pertinent to dealer growth and profit!

5 **Liberal Dealer Stocking Plans** . . . assure the equipment required by Select Dealers will be on hand when needed.

6 **Free Retail Salesman Training and Aids** . . . Janitrol helps recruit and train salesmen for Select Dealers. Provides proven, sales-clinching presentation manuals for cooling, heating and new home builder selling!

7 **Protected Territories** . . . Select Dealer Franchises in any market area are limited. No "free-wheeling" franchising to choke off profits!

8 **Powerful Planned Co-op Advertising** . . . a year-round program of hard-hitting local level advertising and promotion prepared for you by experts!

9 **Powerful National Advertising** . . . to create demand in your own local market for Janitrol products—back up your sales and promotion activities!

10 **Promotion Package Worth $300.00** . . . for newly franchised Select Dealers. Includes illuminated signs, floor and window displays, colorful literature, demonstration kits, etc.

11 **Yellow Page Telephone Listings** . . . reserved for you, as a Select Dealer, in your own local phone book under the JANITROL headings.

12 **Competitive Pricing** . . . made possible by famous Janitrol advanced engineering and new automated production lines. Puts Select Dealers in the driver's seat with quality at low cost!

13 **The Top Brand Name** . . . Janitrol leadership in design and quality is nationally recognized and acclaimed. Over two million Janitrol units have been sold!

14 **A Great Line . . . A Complete Line** featuring the Win-Sum-Matic, finest of a fine line!

The Janitrol Win-Sum-Matic Year 'Round conditioner brings you years-ahead features and performance . . . plus the industry's greatest selection of quality accessories for custom-designed comfort systems to boost your profits! Built for time-saving installation and backed by a 20-year warranty on the heat exchanger. Operates year 'round with the quiet thriftiness of clean gas heat and powerful air cooling. New slim-trim styling; warm two-tone colors; and exclusive design features packed with sales appeal!

The all-new Series 52 condensing unit is featured as the cooling system for the Win-Sum-Matic. Attractively styled, weatherproof and safe. Top-mounted, upflow fan boosts performance . . . operates with outside temperature to 125°F.

Other quality products in Janitrol's full line include Oil and Gas-Fired furnaces in horizontal, vertical and counter-flow models . . . plus a special line of competitive equipment built for the high volume, new home market! In cooling, Janitrol covers the residential and commercial markets with economical, self-contained units; add-on, modernization units and a completely new series of air-cooled condensing units. Janitrol Unit heaters, duct furnaces and schoolroom conditioners blanket the industrial heating market with a wide selection of models from 30,000 up to 1,750,000 Btu inputs.

You owe it to yourself to get the full story on Janitrol's full line . . . plus the fabulous Janitrol SELECT DEALER PLAN! WIRE COLLECT RIGHT AWAY!

FOR SOARING PROFITS IN THE SIXTIES, JOIN THE JANITROL SELECT DEALER GROUP! WIRE COLLECT FOR COMPLETE INFORMATION, ABSOLUTELY WITHOUT OBLIGATION...

JANITROL
HEATING AND AIR CONDITIONING
A Division of Midland-Ross Corporation
Columbus 16, Ohio • In Canada: Moffats Ltd., Toronto 15

Typhoon Shows New Developments In Packaged Cooling

NEW YORK CITY—New developments in packaged air conditioning equipment for business and home use were shown recently to metropolitan New York architects, air conditioning contractors, and dealers by the Typhoon Air Conditioning Div. of Hupp Corp.

Featured in the showing at the Hotel Essex was a new remote air conditioner designed to benefit neighbors as well as the owner and a combination cooling and heating unit for commercial installations.

The "good neighbor" feature of the air conditioner results from a design that blows unwanted heat and mechanical noise skyward rather than outward against neighboring buildings, it was pointed out.

"Particularly applicable to air conditioning of single story retail establishments, the one-package heating-cooling unit designed for roof mounting combines an air-cooled air conditioner and a gas-fired warm air system," Typhoon said.

"The unit eliminates piping and ductwork within the store and saves up to 100 sq. ft. of valuable selling space. Compact in size, the 8 or 10-ton cooling capacity units heat or cool an area of 2,400 to 4,000 sq. ft."

Passty Takes Post With Humphrey Div.

EVANSVILLE, Ind.—Bohdan G. Passty has assumed the post of development engineer in charge of the Humphrey heating division of Arkla Air Conditioning Corp., according to W. R. Stephens of Little Rock, Ark., president of the corporation.

B. G. Passty

Passty was born in the Russian Ukraine and obtained a bachelor of economics degree from the Academy of Economics in the Ukranian city of Lvov. He obtained a bachelor of science degree from the University of Berlin and then moved to Austria to do postgraduate work at the University of Innsbruck.

In 1948, Passty and his wife came to Canada and settled in London, Ont., where he was employed by General Steel Wares as a development engineer in the production of central heating, refrigerators, and cooking appliances.

Passty and his family moved to the United States in 1957 settled in Chattanooga, Tenn., where he continued his work as a development engineer in the heating and air conditioning industry. He resided in the South until taking his present post with Arkla.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

TV Film Depicts Benefits of Air Conditioning, ARI Certification

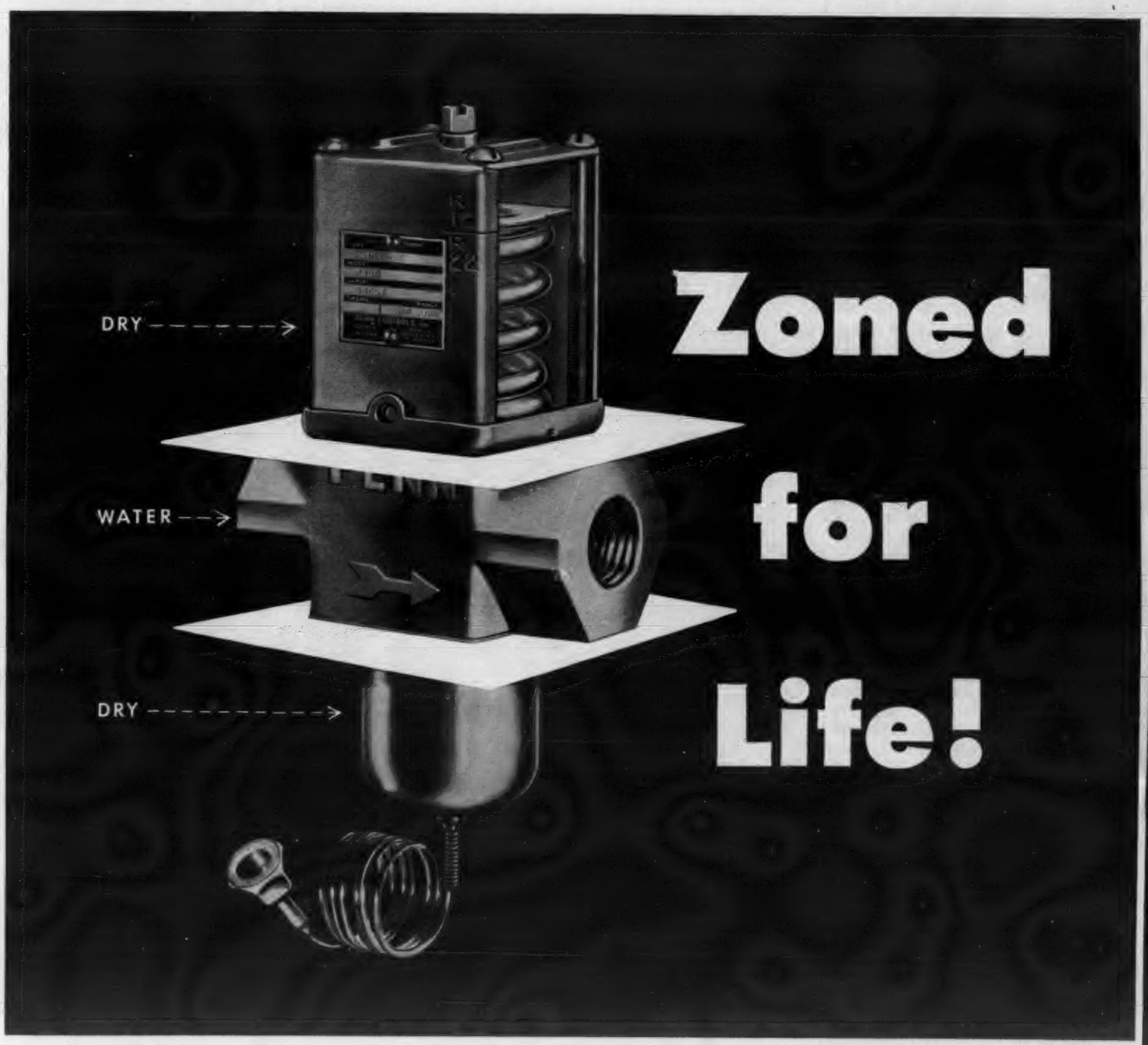
WASHINGTON, D. C.—"Weather or Not," a motion picture film for television use, portraying the benefits of air conditioning as well as publicizing the ARI Unitary Air-Conditioner Certification Program and the Seal of Certification, started its rounds of television stations in the U. S. and foreign countries in mid-February.

Produced as one issue of the Peabody Award Winning television series sponsored by the National Association of Manufacturers, titled "Industry on Parade," the 13.5-minute film will be shown on some 270 television stations in the United States and by 42 overseas stations. In many cities, the program is also shown to local schools following the telecast.

Distribution of "Weather or Not," as of all films in the NAM series, began with the shipment of 52 prints from New York to a like number of TV stations which, following telecast, transship their print to another station as designated by NAM.

Since the series is placed with the stations in "public service" time, the playdate is at the discretion of the local stations. However, a check of television programs in local newspapers will establish which stations normally carry the "Industry on Parade" films, and a check with program directors of these stations should determine when the ARI film, numbered 487 in the series, will be telecast in each area.

"Weather or Not" was produced by NAM in cooperation with the Unitary Air-Conditioner Certification Program, sponsored by the Unitary Air-Conditioner Section of the Air-Conditioning & Refrigeration Institute, as a part of the promotional activities designed to make the program and the seal known throughout the country.



IN THE PENN WATER VALVE... two diaphragms keep water away from the bellows, range spring and sliding parts. Water... with its rust, corrosion and sedimentation... never has a chance to attack these "working parts" and cause destruction. That's why the Penn 246 stays on the job longer than ordinary valves! Ask your wholesaler... he'll tell you the Series 246 is the best.

PENN CONTROLS, INC. Goshen, Indiana

EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N.Y.

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

'It Should Be Offered as an Extra'

Wholesaler Proposes 'Extended Compressor Warranty' Plan Which He Feels Would Solve Many Problems In Present System

The so-called "5-Year Warranty" on the refrigeration compressor or cooling cycle in air conditioning and refrigeration installations has been the subject of considerable debate and controversy in industry circles recently. However, in spite of all that has been spoken and written on the subject, there hasn't been much offered in the way of a studied, analytical discussion of what is, and what should be, involved in an extended warranty.

The accompanying article, while it may present something of a special viewpoint, is nonetheless one of the most objective discussions on the subject to come to the attention of the editors. It touches on the problems and faults of some of the warranty plans, but also details one approach to an "Extended Compressor Warranty" which would seem to offer benefits to all parties involved with such a warranty.

Mechanical Supply Co.
Wholesalers
4605 McRee St.
St. Louis, Mo.

Editor:

In these days of free interchange of information and the good communication your publication has throughout our industry, I am surprised that so much opposition and bad information has been spread about the "5-Year Warranty" without contest.

Since you and your paper are a melting pot and a sounding board for issues like this, this letter seems appropriate.

The refrigeration compressor warranty which currently has attracted much adverse comment from several elements in our industry, deserves some clarification of its present composition and who and why are advocating its demise—or continuance.

Like so many other issues (many of which are easier to evaluate) the extended compressor warranty in its present form, is not all bad or all good. Rather, it is my opinion and that of my company, most of our customers and all of the users contacted, that it is desirable and should be continued and improved upon to further enhance the growth of our industry.

Utilities Interested

Utilities which are usually split into two camps each with a different type of power to sell, are fast becoming a potent influence and certainly they will be interested in any industry movement to scuttle the present warranty policies.

As not much has been written in support of the extended warranty, the purpose of this letter is to solicit comment from all levels so that it can be decided whether it is good business or not. While making no claim to be well informed, we found through experience many desirable features and properly administered, no particular deterrent to business or profit at any level in our industry.

The compressor warranty is similar to any other commodity in the respect that, it is unprofitable to sell a bad product or service and the reverse is true.

'5-Yr. Warranty' Seen As Misnomer

The name "5-Year Warranty" is a misnomer and should not be used as it is quite misleading, rather we believe the term "Extended Compressor Warranty" better defines the normal intent. Despite the fine print on the warranty certificate the buying public respects the seller who spells out the offering and they will willingly assume their responsibility for the balance of the unit after the usual complete one year warranty is expired. If presented in that manner the chief objection from the Distributor, Contractor, and Serviceman would be eliminated.

Perhaps the loudest objections which first started with the manufacturers (who originated the 5-year warranty) and now being voiced by their organizations at other levels in the industry, that it is too costly to maintain, thus adds to the equipment price and eliminates some potential sales. That sounds like a plausible reason to eliminate the warranty but when analyzed it is something else.

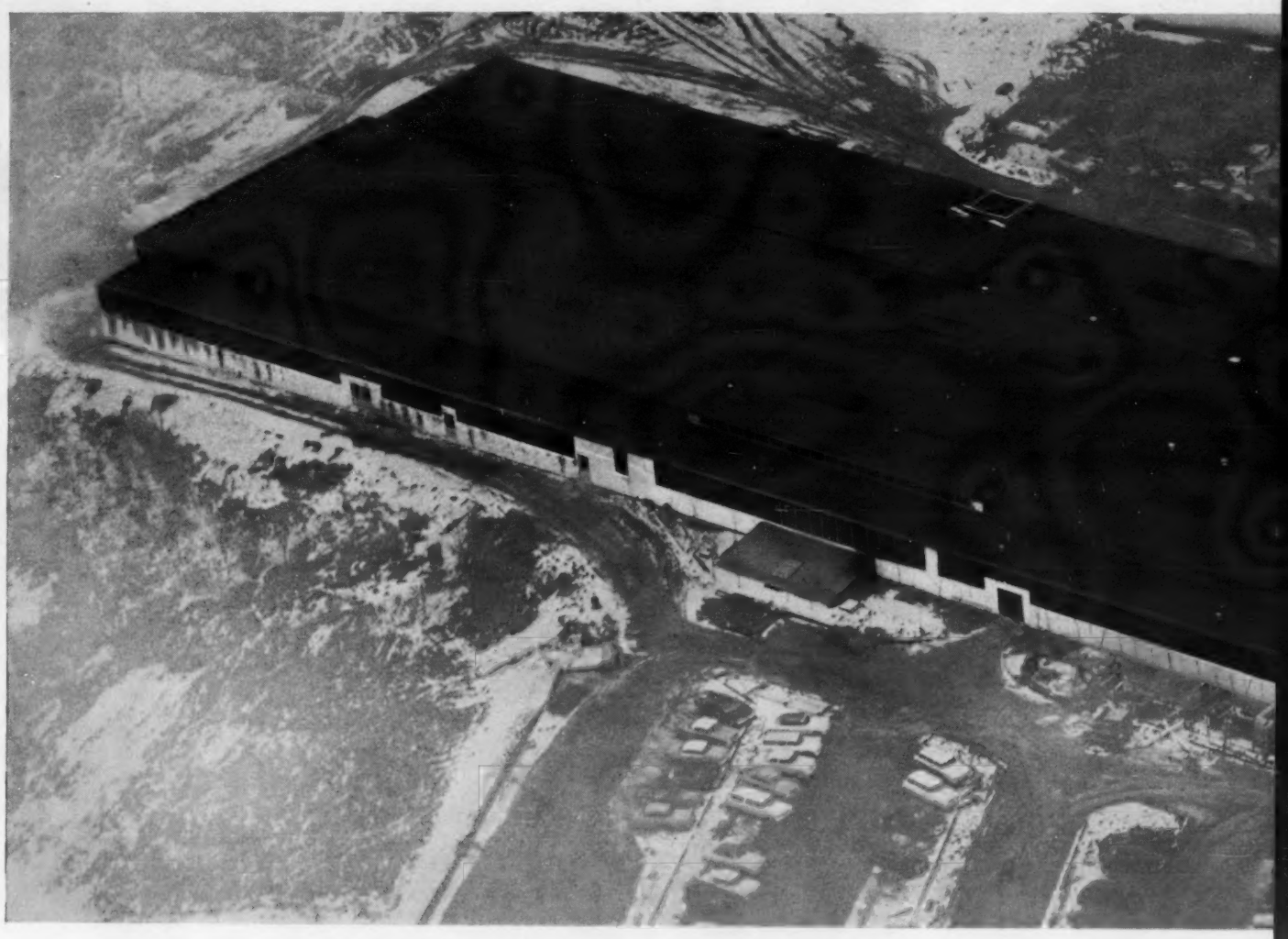
Doubts If Manufacturer Knows True Costs

First, it must be embarrassing now to some manufacturers to learn that the cost of administering the warranty far exceeded their reserve or insurance. We doubt that manufacturers really know their cost for compressor warranties as many of these costs are buried in their service departments and general freight, not to count the intangibles such as lost sales time and inspection of return compressors and record keeping. On that score we have no sympathy for the manufacturer, for a wholesaler can do this job for the manufacturer, at lower cost, faster and better.

Second, the service allowance payable when a compressor is replaced in the last 4 years, is a sales gimmick and such costs should be charged to the sales department. Since a user will accept the responsibility to pay the installation charges for a compressor exchange, a manufacturer who offers to pay this charge is selling a warranty and not a product.

Third, the "Extended Compressor Warranty" should be offered as an extra so the buyer can choose and at the same time remove this cost from the price, it is an accessory and should be treated so.

The administration of even a



SET FOR THE SOARING SIXTIES

PACE-SETTER during a period of phenomenal growth in northern Westchester County, N. Y. Kensico Tube is Mt. Kisco's largest manufacturing business. Products include: hard and soft copper water tube; copper air conditioning, refrigeration and instrumentation tube; and copper tubing for propane gas lines, heat exchangers, automotive and industrial applications. Now, after more than a decade of corporate growth and expansion of production and marketing facilities, Kensico is set to meet the challenge of the SOARING SIXTIES.

IN 1950, CONSTRUCTION of first new building was started. Kensico had been chartered under N. Y. State Law in 1945. Under present management since 1948. Until 1951, company was located in an old cider mill which it leased (floor space 8500 sq. ft.).

TODAY, AFTER PUTTING UP 4 MORE ADDITIONS, Kensico has more than 60,000 square feet of modern fireproof plant and office space.

simple 4-year extended warranty has far more facets and contingencies than the pros and cons of its value, and in this area we feel better qualified to discuss solutions for the high cost and objections to the warranty program.

We as an Independent Refrigeration Wholesaler know the value of our function and the reason for justifying our existence in this industry, which includes the stocking and supplying replacement parts.

We as a company spend a great portion of our time serving our accounts with replacement parts and application information. Unlike manufacturers we do not make anything, unlike the serviceman - contractor we do not fix or install anything, but we do offer a prompt, low cost and intelligent supply function to our trade area. As we are in a position to prove that organization of our type can perform this brand of service with compressor replacements, with a reasonable profit for the wholesaler, the major problem of warranty administration has been solved.

In our operation we are using and would consider using only established trade channels and new compressors with factory supplied or approved electrical components. The compressor supplied is the same as supplied for out of warranty and outright sales. We have developed nothing new, but are merely utilizing our existing facilities in the interest of better service.

Although this letter has our neck sticking out about a yard we feel that it's time someone stood up to be counted in the defense of proper "Extended Compressor Warranty."

We have not detailed the administration of our program and we agree compressors other than those we sell may require other administrative details, but we are convinced the same result could be achieved. We are confident that a proper warranty program can be planned at a price that the user will pay, with a *profit* for all levels involved, with no risk of profit loss for our industry, with a guaranteed warranty policy for the buyer, and perhaps most important of all, an assurance of good user-manufacturer relation should a compressor failure occur. How do we know this will work? . . . We are doing it!

We do not wish to convey that we are much of an influence in our field for we are relatively small potatoes, but we hope our little squeak will be heard so that the opponents will be forced to be more specific in their objections, and in so doing they might discover they haven't been all the way around the bush.

CHARLES F. BARMEIER

You Asked About It

From the many requests for information it receives, the NEWS will select and publish some of general interest. In many instances, the answers will be supplied by authorities in the industry.

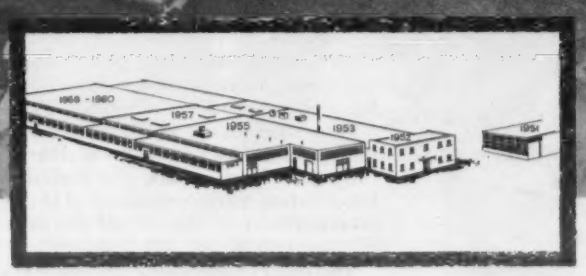
Q. Frequently, for one reason or another, I must replace a capillary tube on an air conditioner, freezer, or refrigerator. Sometimes, too, the cap tube is crushed at one end, and it is necessary to cut off a small length. How long a piece can be removed from a cap tube without seriously affecting operation of the unit?

F.D.—Owosso, Mich.

A. A future Techcenter will discuss capillary tubes, as well as other metering devices. This specific question is answered here by H. E. Rosebrook, vice president in charge of engineering at Gibson Refrigerator Div., Hupp Corp.

Rosebrook says, "Normally, it would be safe to vary the recommended length of a capillary by a few inches. Many condensing units, for example, are powered for use in the South where high ambients are expected. Thus, they have some reserve, so to speak, when applied in other areas.

"So a serviceman in Ohio might be safe in taking up to a foot off the cap tube, if the unit was not being over-taxed in normal usage, while the man in the South would not have such leeway. Anything over a foot, though, could cause difficulty."



AERIAL VIEW OF KENSICO TUBE (above) shows modern plant with new addition nearing completion at top left of photo. Inset (right) Kensico's year-by-year growth.

BY SPRING, 1960, Kensico expects to complete a new 40,000 square foot addition to the plant. Total plant and office space will then exceed 100,000 square feet.

PRODUCTION HAS INCREASED with each addition since 1950. It will be still further increased in both capacity and range of sizes by the new 1960 addition.

IN THE TEN YEAR PERIOD, 1950-1960, Kensico has had a 7-fold growth in gross sales.

EFFECTIVE FEBRUARY 1st 1960, Kensico Tube Company Incorporated, Mt. Kisco, N. Y., merged with Robinson Technical Products, Inc., Teterboro, N. J. Robinson also has other corporate facilities at Hingham, Mass., and Santa Monica, California. The merger strengthens Kensico's position in engineering and metallurgy and places new technological know-how and experience at the disposal of Kensico's customers. Kensico's new name is KENSICO TUBE COMPANY DIVISION — ROBINSON TECHNICAL PRODUCTS, INC.

Kensico Tube
COMPANY DIVISION
Robinson Technical Products, Inc.

MOUNT KISCO, NEW YORK

Kensico Products are also Available Through Warehouse Distributors and Sales Representatives in Cambridge, Mass.; Middlebury, Conn.; Buffalo, N. Y.; Lindenhurst, N. Y.; Goshen, N. Y.; Roselle, N. J.; Philadelphia, Pa.; Flourtown, Pa.; Pittsburgh, Pa.; Cleveland, Ohio; Detroit, Mich.; Evanston, Ill.; St. Louis, Mo.; Milwaukee, Wisc.; Durham, N. C.; Berwyn, Ill.; Ft. Lauderdale, Fla.; St. Petersburg, Fla.

Wilkerson Retires; Dole Appoints Charles Tesar

CHICAGO — J. A. "Jerry" Wilkerson, after some 25 years of service to Dole Refrigerating Co. and his customers in the south central states, has retired from active sales work.

He will remain in a consulting capacity for a further period of time, however.

Charles J. "Charlie" Tesar, who has been with Dole for over 17 years, and recently represented the firm in the northeast states, will take over Wilkerson's territory.

Paul B. Laib of Albany, N. Y., is taking over as district manager of the northeast states. For the last 12 years he has represented a refrigeration wholesaler in Albany and has had broad experience with contractors and manufacturers.

John J. Burge recently joined the sales office staff as application engineer. He brings to his new position over 20 years of refrigeration experience.

Management, Ownership Change Announced by Hinshaw Supply Co.

SAN FRANCISCO — Change in management and partnership has been made in Hinshaw Supply Co., refrigeration, air conditioning, and industrial equipment wholesaler in San Francisco, Oakland, and Sacramento.

R. L. Hinshaw announced that he and W. F. Davidson have dissolved their partnership.

Marvin Intemann, formerly Sacramento manager, has assumed all the duties as general manager of Hinshaw Supply with headquarters in San Francisco.

Walter D. Tis, formerly outside salesman, Sacramento, covering Sacramento and Nevada territory, succeeds Intemann as manager at Sacramento.

All three Hinshaw establishments carry the whole Dunham-Bush line including Brunner and Heat-X, Intemann said.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

70-Acre Maryvale 'Shopping City' Makes Extensive Use of Cooling

PHOENIX, Ariz. — The 70-acre Maryvale "Shopping City," the heart of what has been called Arizona's most progressive "planned" community, makes extensive use of units manufactured by Recold Corp., it was announced by Carns-Hoaglund Co. who represents Recold air conditioning products in Arizona.

Soon to house 800,000 sq. ft. of retail selling space, this project of Developer John F. Long, will be the largest new shopping area in the state, with provisions for every shopping need, the announcement said.

Recold air-handling units, coils, and evaporative condensers were chosen to handle the air conditioning in the several buildings and were installed by Fike Plumbing & Heating Co., Inc., of Phoenix.

Stage One of the "city" located 15 minutes from downtown Phoenix, is now open and serving this new community of 40,000 people. The Master plan for Maryvale was executed by John F. Long in cooperation with Victor Gruen & Associates, internationally-famed city planners and engineers.

Already the community has won 14 awards, including the 1959 National Association of Home Builders Community Development Award.

At present, Maryvale is said to be attracting an average of 60 families per week, making Long one of the nation's largest home builders, it was pointed out.

New Shopping Centers Indicate Growing Interest In Cooling from Toronto to Texas

DETROIT — Interest in air conditioned shopping centers continues to grow, according to reports currently reaching the NEWS.

What is said to be Canada's first completely enclosed air conditioned shopping concourse is under construction in Toronto's suburban Leaside.

"Keystone" of the new center is a supermarket recently completed by Thornton Park, Ltd.

The rectangular concourse will eventually be enclosed by a 22-ft.-high ceiling, a department store, two restaurants, and numerous open-front shops lining the longer sides. A central area will be developed for communal activities such as shows and symphony concerts.

Houston, Texas has also entered the field with a $3,000,000 project located in its Spring Branch area.

The air conditioned mall of Houston's Houck Interests will be located on a 15-acre site. Three major entrances, according to Architect Irving R. Klein, have been designed for the 525-ft. by 45-ft. area.

Klein's plans also include tropical planting areas with shoppers' seating and rest areas, plus facilities for large exhibits, such as auto and fashion shows, in the mall. Area of the center will be approximately 160,000 sq. ft.

Other air conditioned malls have been announced by Houston developers, but the Houck project apparently will be the first completed.

Visionary

Now Feasible To Air Condition 'Downtown Denver'

DENVER — Air conditioning downtown Denver is now "entirely feasible and possible," according to Myron C. McGinley, administrator of the Denver-based Pipe Industry Development Fund.

McGinley, in a recent letter to the Denver Retail Merchants Association, the Building Owners & Managers Association, and the Downtown Denver Improvement Association, said that covering the streets of almost any given area with translucent insulations at a height of two stories and air conditioning 50 square block areas at one time is an achievable project.

"Taller buildings, extending above the two-story 'bubble' could contain air conditioning within their own structure," the letter said. "These things are both visionary and expensive, but it is the only way that you can answer all of the shopping desires of people who are in a buying mood."

Hospital Emergency Area Gets Cooling

NEWPORT, R. I. — Newport hospital's ancient "accident room" has been converted into a new, fully-equipped emergency department in which all working spaces are fully air conditioned.

The hospital expended more than $135,000 on the Elinor Dorrance Hill Emergency Dept., including plans, construction, and equipment. The majority of the construction cost is being contributed by a member of the board of trustees, Mrs. Nathaniel P. Hill, in whose honor the department is named.

The ceiling throughout the expanded, modernized department has been lowered from its former height to accommodate air conditioning ducts, oxygen conduits, and utility lines. The main air conditioning machine is located atop a louvered entranceway for ambulances.

Smithsonian Institution To Get Air Conditioning

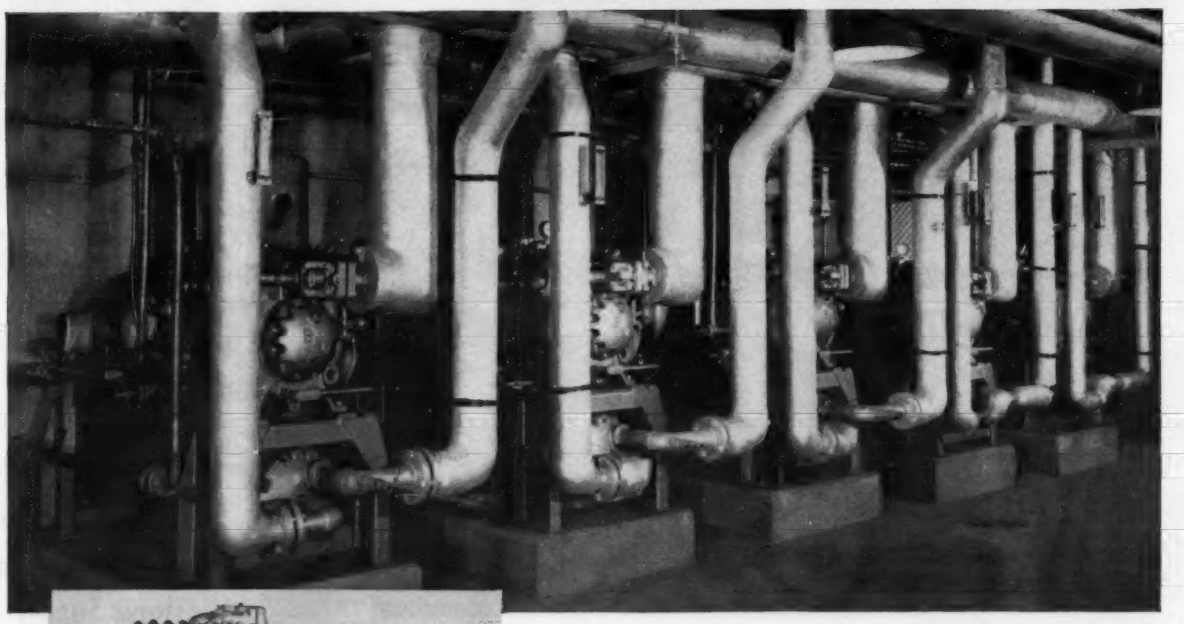
FOUNTAIN INN, S. C. — Silco Products, Inc. here, manufacturer of heat transfer equipment, announced that it has received an order to furnish 16 air conditioning units and six heating units to be used in alterations and additions to the Smithsonian Institution in Washington, D. C.

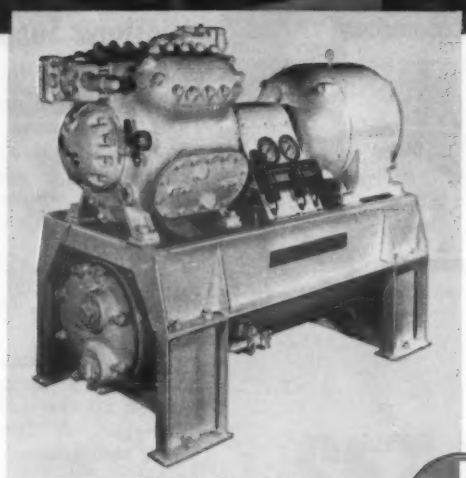
"The 16 units are to provide over 300 tons of air conditioning," a Silco spokesman said.

This is the third time the Fountain Inn firm has received orders for similar units to be installed in the Smithsonian, it was noted.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

B&G® CONDENSING UNITS SELECTED FOR KANKAKEE, ILLINOIS, STATE HOSPITAL





B&G CONDENSING UNIT
An achievement in design, featuring interchangeable vital parts. 7½ through 150 tons. Performs with effortless smoothness, but with rugged brute strength available when required.

This modern institution was constructed in 1959 under the direct control of the Division of Architects and Engineers of the State of Illinois. The consulting engineers for the mechanical equipment were E. R. Gritschke & Associates, Chicago, Illinois. Burge Ice Machine Co., Chicago, Illinois, made the installation. The B&G low temperature equipment selected to meet the exacting food preservation requirements of this installation was three 25 HP and two 20 HP low temperature Condensing Units.

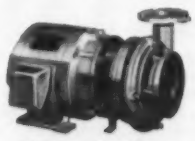
The B&G Compressor is a notable advance in refrigeration engineering. It is distinguished by *quieter operation —less vibration!* All Compressors have *one* bore diameter —a few interchangeable parts will service all units, reducing maintenance problems.

Remember, too, that *all* major parts of B&G "package" units are made and guaranteed by Bell & Gossett Company. This "plus" design feature means greater dependability—greater value per dollar.

BELL & GOSSETT COMPANY
Dept. GC-47, Morton Grove, Illinois
Canadian Licensee: S. A. Armstrong, Ltd. 1400 O'Connor Drive, Toronto 16, Ontario

A COMPLETE LINE OF REFRIGERATION AND AIR CONDITIONING "PACKAGES" AND COMPONENTS

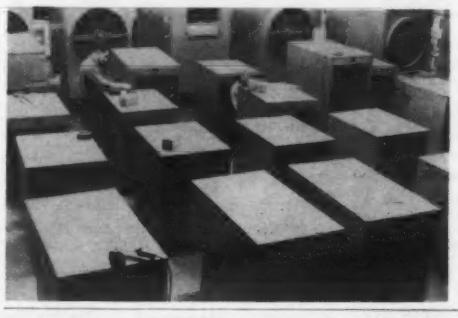
B&G Evaporators


B&G Centrifugal Pumps

B&G Condensers

B&G Package Liquid Coolers

Halstead & Mitchell Moving Into Market For Larger Units



HALSTEAD & MITCHELL cooling towers moving out of the company's Zelienople plant. According to General Sales Manager Horace I. Schmidt, this will be the biggest year in sales in Halstead & Mitchell's history.

PITTSBURGH — Halstead & Mitchell Co. is extending its equipment line to meet demands for higher tonnage jobs in commercial and industrial applications.

Horace I. Schmidt, general sales manager, is directing company efforts in engineering and sales "to take advantage of a market for the company's large size equipment that is growing at an even more rapid rate than the industry growth pattern."

"Our cooling tower line now includes a 150-ton model, almost double the size of the largest unit offered three years ago," Schmidt stated.

"Similarly, in our air-cooled condenser line, we now offer single-fan condensers with a capacity of 50 tons. We are selling a large number of manifolded units because multiples of all of our condenser can be put together for use on jobs that range well upwards of 100 tons."

"Even our new line of air handlers," Schmidt pointed out, "are being supplied for capacities up to 47,500 c.f.m. We have made provision for the inclusion of cooling or heating coils up to 12 rows in depth."

Halstead & Mitchell's product line includes cooling towers, water-cooled and air-cooled condensers, finned surface coils, and air handling equipment.

Powers Opens Office

LITTLE ROCK, Ark.—With Paul M. Duff as manager, Powers Regulator Co. has opened a factory branch office at 1610 W. Fourteenth St. here, it was announced.

NISA Changes Convention Dates, Announces Program for May 8-11

ST. LOUIS—Dates of the 27th annual convention of the National Industrial Service Association, Inc., international trade organization of electrical apparatus service and sales shops, have been changed from May 4-7 to May 8-11, 1960, it has been announced by Joseph M. Harrington, NISA executive vice president.

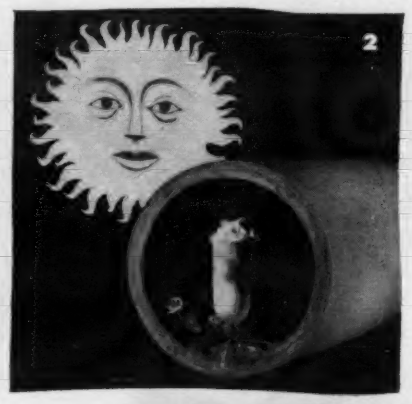
The change in dates of the convention, which will be held at the Hotel Fontainebleau, Miami Beach, Fla., became necessary when the hotel discovered a conflict in its convention schedule, Harrington said.

The NISA convention will open on Sunday night, May 8, with a reception for the association's international president, Horace C. Blenkhorn, of Blenkhorn & Sawle, Ltd., St. Catherines, Ont., Can. It will close with the organization's traditional annual dinner on Wednesday night, May 11.

A program of approximately 13 speakers will be held on Monday, Tuesday, and Wednesday mornings. The names and topics of the speakers will be announced soon, according to Joseph M. Wright, Turner Electric Works, Jacksonville, Fla., program chairman.

Michael E. Assalone of Florida Electric Motor Co., Miami, is general convention chairman.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.



HERE'S WHY G-B DUCT out-performs all other ductwork!

❶ **"BUILT-IN" SOUND TRAPS**—Every foot of this round, prefabricated glass fiber duct contains millions of sound-absorbing cells that soak up "whooshing" and cross-talk noises.

❷ **OUTSTANDING THERMAL PROTECTION** — Because it is made entirely of uniformly-thick glass fiber insulation, G-B DUCT provides maximum protection against heat loss or heat gain.

❸ **NO MOISTURE CONDENSATION** — Ducts stay dry and moisture-free because G-B DUCT is made of insulation completely encased in a rugged, airtight vapor barrier.

❹ **LESS SUSCEPTIBLE TO DAMAGE**—G-B DUCT's highly resilient all-glass-fiber walls are almost immune to damage. If bent, G-B DUCT will snap back to original shape without tearing or weakening the fibers.

❺ **CUTS INSTALLATION TIME ALMOST IN HALF** — G-B DUCT is available in standard sheet metal sizes, assembles with standard fittings, and is easily "tailor-cut" with a knife and factory-supplied templates.

SEE ADJOINING COLUMN FOR NAME OF NEARBY DISTRIBUTOR, OR WRITE

GUSTIN-BACON Mfg. Co.

218 W. 10th St., Kansas City, Mo.

G-B DUCT DISTRIBUTORS

AKRON, Ohio, The Asbestos Supply Co.
ALBANY, Ga., Industry Insulation Co.
ALBUQUERQUE, N. M., Mt. States Insulation Co.
AMARILLO, Tex., Morrison Supply Co.
ATLANTA, Ga., Reynolds Aluminum Supply Co.
The Thompson Company
AUGUSTA, Ga., Noland Company
BALTIMORE, Md., Leroy Insulation Company
BANGOR, Me., Eastern Glass Co.
BEAUMONT, Tex., Coburn Supply Co.
Solar Supply Company
BILLINGS, Mont., Big Horn Supply, Inc.
BIRMINGHAM, Ala., Hall-Newsome Co.
Hart-Greer, Inc.
Reynolds Aluminum Supply Co.
Shook & Fletcher Supply Co.
BORGER, Tex., Western Chem. & Supply Co.
BOSTON, Mass., Homans-Kohler, Inc.
BRUNSWICK, Ga., Baker Bros., Inc.
BUFFALO, N. Y., Industrial Insulation Sales, Inc.
North Star Supply Company
CHAMPAIGN, Ill., The Lewie David Co.
CHARLESTON, S. C., Asbestos & Insulating Co.
Baker Bros. Co.
CHARLESTON, W. Va., Dunbar Metal & Sup. Co., Inc.
CHARLOTTE, N. C., Metal Service, Corp.
CHATTANOOGA, Tenn., Noland Co.
CHICAGO, Ill., E. C. Carlson Company
Culberg Asbestos & Cork Co.
CINCINNATI, Ohio, Van Dyke Supply Co.
CLEVELAND, Ohio, Ohio Asbestos & Ins. Co.
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Culberg of Ohio
CORPUS CHRISTI, Tex., Precision Insulation Co.
DALLAS, Tex., Payne-Ladewig, Inc.
DAYTON, Ohio, A & H Supply Co.
DAYTONA BEACH, Fla., B&F Insulation Co.
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DECATUR, Ga., Lennox Industries
DENVER, Colo., Gene Wright Lumber Co.
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FT. WORTH, Tex., Bracken Co.
GAINESVILLE, Fla., Baker Bros. Co.
GULFPORT, Miss., Paine Supply Co.
HEMPSTEAD, N. Y., Air Supply Co.
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JACKSON, Miss., Paine Refrigeration & Supply Co.
JACKSONVILLE, Fla., Baker Bros. Co.
Eckles Distributors, Inc.
Ferber Sheet Metal Works
Florida Air Conditioners
Reynolds Aluminum Supply Co.
Southernair Distributors
KANSAS CITY, Mo., Central Supply Co.
Kelley Asbestos Co.
Superior Distributing Corp.
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Holston Air Conditioning Corp.
LAKE CHARLES, La., Coburn Supply Co.
Solar Supply Company
LAREDO, Tex., Anderson-Sturzis Company
LITTLE ROCK, Ark., Quinn Distributing Co.
555, Inc.
LOS ANGELES, Calif., Western Fibrous Glass Prod. Co.
LOUISVILLE, Ky., General Insulation & Roofing Co.
LUBBOCK, Tex., Anderson-Young Elec. Co.
Mechanical Equipment Co.
Morrison Supply Co.
MACON, Ga., Industry Insulation Co.
MARIETTA, Ohio, Asbestos & Insulating Co.
MEMPHIS, Tenn., A. T. Distributors, Inc.
MIAMI, Fla., Reynolds Aluminum Supply Co.
Southern Metal Prod. Co.
MILWAUKEE, Wisc., F. B. Dengel Co.
MINNEAPOLIS, Minn., Asbestos Products, Inc.
MYRTLE BEACH, S. C., Air Conditioning Supply
NASHVILLE, Tenn., Central Air Conditioning & Heating Co.
Reynolds Aluminum Supply Co.
NEWARK, N. J., Eastern Steam Specialty Co.
NEW IBERIA, La., Brooks Electronics
NEW ORLEANS, La., Eagle Asbestos & Packing Co.
Solar Supply Co.
NEW YORK, N. Y., Eastern Steam Specialty Co.
NORFOLK, Va., Automatic Equipment Sales Co.
NORTH PLAINFIELD, N. J., United Supply Co.
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Western Chemical & Supply Co.
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PITTSBURGH, Pa., Keystone Div. of Dravo Corp.
PORT ARTHUR, Tex., Coburn Supply Co.
PORTLAND, Me., Eastern Glass Co.
PORTLAND, Ore., Western Fibrous Glass
RALEIGH, N. C., Reynolds Aluminum Supply Co.
RICHMOND, Va., Automatic Equip. Sales Co., Inc.
Reynolds Aluminum Supply Co.
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Rochester Oil Burner Company
ROCKFORD, Ill., Mott Brothers Co.
SALT LAKE CITY, Utah, Bullough Asbestos Sup. Co.
SAN ANTONIO, Tex., San Antonio Machine & Supply
SAN DIEGO, Calif., Western Fibrous Glass Prod. Co.
SAN FRANCISCO, Calif., Western Fibrous Glass Prod.
SAVANNAH, Ga., Baker Bros.
Reynolds Aluminum Supply Co.
SEATTLE, Wash., Western Fibrous Glass Prod.
SHREVEPORT, La., Frith Sales Co.
SOUTH BEND, Ind., Conditioned Air, Div. of Place & Co.
ST. PAUL, Minn., Asbestos Products, Inc.
SULLIVAN, Ill., Lewie David, Inc.
SYRACUSE, N. Y., Burnett Process, Inc.
TALLAHASSEE, Fla., Baker's, Inc.
TAMPA, Fla., Eagle Roofing & Art Metal Works, Inc.
TULSA, Okla., Ball Distributing & Engr. Co.
VALDOSTA, Ga., Baker Bros.
WASHINGTON, D. C., Walter E. Campbell Co.
WINSTON-SALEM, N. C., Air Conditioning Supply

HAWAII: *Along with Statehood Comes Air Conditioning*

By Phil B. Redeker

HONOLULU, Hawaii—Statehood, the jet age of air travel, and the "go-go-go" spirit of the American Tourist are bringing many changes to the Hawaiian Islands, and among those changes will be some new attitudes toward air conditioning.

Always recognized as a tourist paradise, the Islands attractions until recently seemed limited to those who had both money and the *time* to take the trip to Hawaii. Now, with flying time already cut to 4½ hours in jets, West Coast travel advertisements are saying:

"Fly to Hawaii in less time than you can drive to Las Vegas or Reno."

And thus the individual who resides on the West Coast or is visiting there can now really have a satisfying weekend in Honolulu. Leaving not too early Friday afternoon he can (taking into consideration the time change) arrive in Honolulu for a not-too-late dinner. He will then have a full Saturday and Sunday (including Sunday night) in the Islands, catch the midnight jet back to the mainland, and arrive in time for breakfast Monday morning.

The "statehood" factor is simply this: the mere fact of Hawaii becoming a state, together with all the attendant publicity, has fired the imagination of the mass of American tourists, who previously may have limited their excursions outside of the borders of the 48 states on the North American Continent to Mexico or Canada. Thus an ever-increasing flood of tourists heads for the Hawaiian Islands, and if airline fares ever get down to below the $100 mark (one way) as some are predicting will soon be the case, the flood may become a deluge.

One of the results of this increase in tourist trade is that new facilities have been and are being constructed to handle more people. Of significant interest to those involved in air conditioning is that the new construction is veering away somewhat from the "lanai" concept ("open to the trade wind breezes") that has been traditional in the Islands, and becoming more similar to conventional new construction on the mainland.

Cooling Considered In New Construction

This is particularly true of the new multi-story hotels and apartment buildings which are now prominent in Honolulu's landscape for the first time, but it is also extending to many of the other types of facilities in which people gather in any sizable numbers.

Not all of the new multiple-dwelling structures will have cooling in all of the guest rooms, but some of them will. The "tower" buildings which one might term "Miami-style" hotels in Henry Kaiser's Hawaiian Village have air conditioned guest rooms, and some of the new hotels and cooperative apartments are advertising that they will have air conditioned facilities.

Hotel public rooms, restaurants and night clubs, and retail stores are now being air conditioned on a much greater scale than was true even a few years ago. In part, they are being forced into it by competition, in part by the "average" mainland tourist who, while he may agree that "lanai" construction is quaint, does not relish having to remove his coat immediately upon entering a public establishment.

Ala Moana Specs

Following are the specifications for the air conditioning requirement which was included in each lease agreement in the Ala Moana Center in Honolulu:

1. Ventilating and Cooling

(a) Cooling system shall maintain dry-bulb temperature of 76° F. and 55% relative humidity during cooling season with outside conditions of 85° F. dry bulb and 75° F. wet bulb.

(b) An automatic temperature control system shall be provided for ventilating and cooling systems.

(c) System shall provide minimum air circulation as required by Board of Health Regulations.

(d) System shall provide roof vents for fresh air and exhaust, except in case of lower level stores without access to roofs which will connect to fresh air supply duct provided by Landlord. Vents chosen shall be unobtrusive, low profile, and waterproof.

Hawaiians like to boast that their climate is "air conditioned," with the high reading almost never going past 88° F. and the low almost never below 60° F. Yet high humidities are common at many times of the year, and if the "usual" trade winds aren't blowing, an 84° F. temperature with 80% relative humidity can result in quite disagreeable conditions, as the Discomfort Index will readily demonstrate.

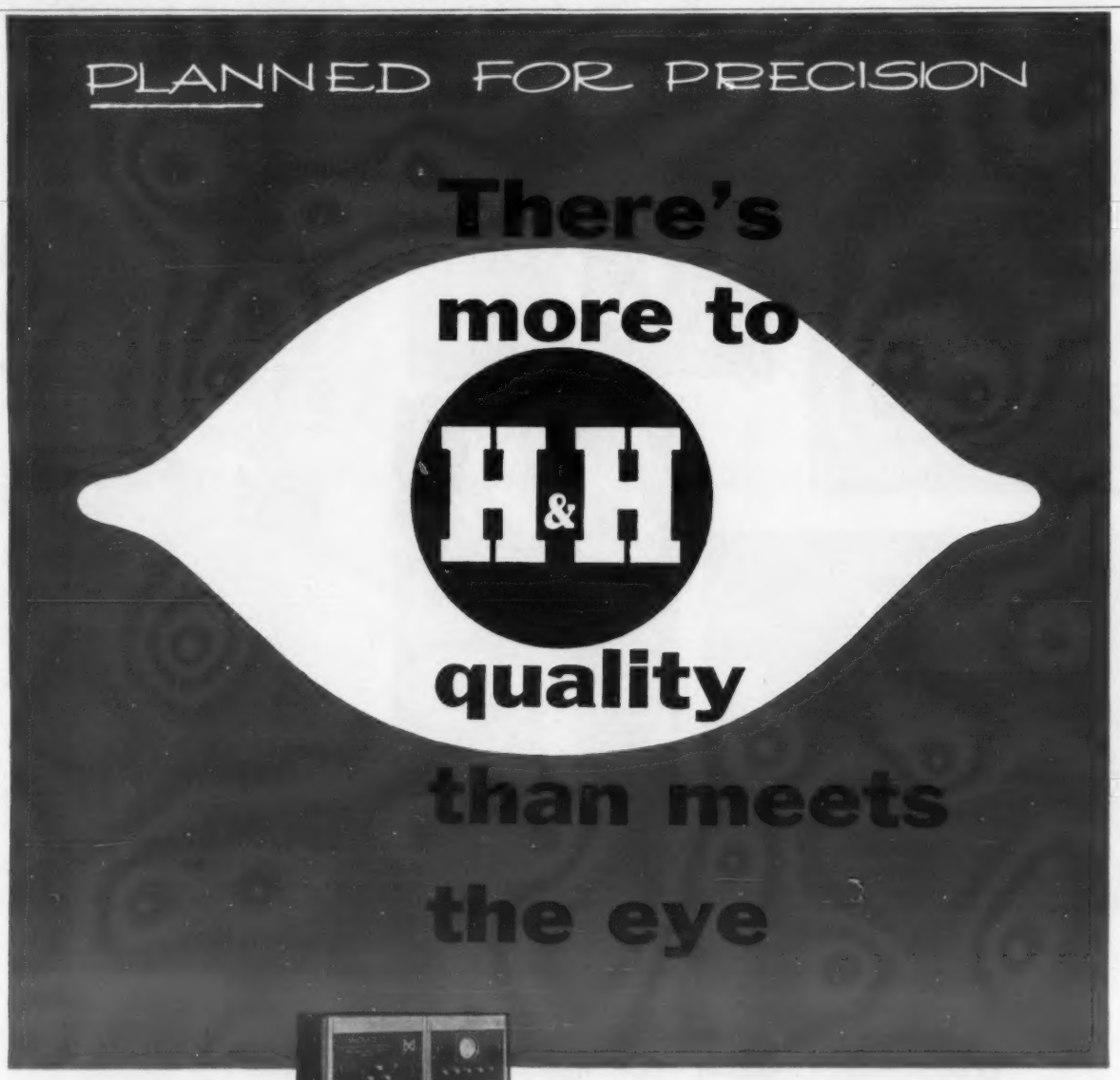
Two Events Crack Complacency

However, two things occurred during 1959 that served to focus attention on, and gain greater acceptance of air conditioning by Hawaiian residents.

One was the fact that every store and place of business in the new Ala Moana shopping center, a complex of some 80 stores and business establishments in Honolulu, is air conditioned. The other was the announcement that the second floor of Iolani Palace, the Hawaiian state house and former residence of royalty when Hawaii was governed by kings, is to be air conditioned.

While Hawaiians are proud of their traditions and the fact that their living and working "customs" are somewhat different and more relaxed than those of other U.S. citizens, at the same time they do not like to be thought of as being "backward" in any way. Thus, when they show a visitor around Honolulu they invariably show off the Ala Moana Shopping Center as being equal to most of its counterparts on the mainland.

Tenants of the Ala Moana center installed systems or units



The bright, clean, uniform color of H & H tubing, the burr-free ends tell of quality you can *see*. But today scientific instruments like the Magnaflux unit pictured at the left, watch for tubing imperfections the human eye *can't* see. So if you want tubing that's free of all inclusions, laminations, laps and slivers, tubing that's free of any wavy conditions inside or out, it will pay you to always remember you can *depend* on H & H.

of their own choosing to cool their particular spaces. "Individual systems assure fullest satisfaction for each tenant," points out Helmut Schleicher, mechanical engineer for Ala Moana. However, condensing water is available on a common supply basis from six cooling towers, skillfully installed on the roof so as not to be visible and disturb the long, low, uncluttered architectural line of the project.

Ala Monana tenants are now using comfort cooling systems rated at some 1,800 tons' capacity. Largest system is in the Sears, Roebuck store—one of the largest Sears retail outlets in the world—where a centrifugal hermetic compressor provides 657 tons of cooling capacity and an air handling system provides 125,000 c.f.m. of conditioned air.

Air Conditioning Co. of Hawaii installed Carrier equipment in 16 Ala Moana locations, including the Sears Store—so that its range of job sizes was from 3 tons to 657 tons. For the installations which it made, Air Conditioning Co. of Hawaii installed 3¾ miles of ductwork.

Commercial Market Opening Up

"Hawaii is more and more becoming air conditioning conscious as is evidenced by the fact that virtually all new office buildings now on the drawing boards provide for air conditioning," relates a utility representative. "Store operators are also coming to realize the important part that air conditioning plays in getting people into their stores and shops and keeping them there."

One other firm indication of the increased interest in air conditioning is the fact that room air conditioner sales hit a peak in 1959, with buying interest so high that most dealers were "out" of units long before the buying demand had been satisfied.

Up to November 1,745 room air conditioners had been sold in the year 1959, this number being more than 50% greater than that of the previous year. Of this number, some 400 had been sold for use in homes, representing a much higher percent of the total that has been recorded in past years.

Utilities Promote Cooling

Another reason for a probable continuing increase in air conditioning sales is the solid promotion backing it gets from the electrical industry in general—and from the Hawaiian Electric Co., the electric utility, in particular. It is unlikely that any industry or utility program on the mainland equaled the residential room air conditioner promotional program sponsored last year by the Electrical Living Committee of Hawaii, which had Hall Hoxie of American Factors, Ltd. as chairman; Roy Becker, as program chairman on room air conditioners; and Francis Williams of Hawaiian Electric Co. guiding the utility's part in the program. This included:

1. Free installation in a residential dwelling. This included wiring where needed.

2. Financing terms were offered with maximum of no down payment, 24 months to pay.

3. During the period June 1, 1959 through Aug. 31, 1959 qualified retail sales of room air conditioners for residential installations were worth a promotional allowance of $30 per unit to the distributor.

4. An industry-wide advertising program, in which the distributors and the utility cooperated, brought the story of air conditioning to the buying public in more than 75 advertisements through the summer months.

Moreover, the utility has put the full-time talents of Richard Souza, a young promotion expert, to work in contacting such places as professional offices and apartment buildings both new and old, in the interests of air conditioning, and this work is starting to pay off in sales.

With temperatures rarely falling below the 60° mark, there has not been much interest in year-round air conditioning. However, F. C. Stroh, air conditioning manager for the Ramsay Co., a division of American Factors, Ltd., distributor for General Electric, reports that there has been some buying interest in central heat pumps, and also in room air conditioner heat pumps.

The islands other than Oahu are not so advanced in air conditioning, primarily because they are not so populous and habitation is more rural than urban. However, the expanding tourist trade, plus climatic factors, will probably see an increasing amount of air conditioning in these areas, also.

For example, Kauai ("the garden island") probably records the greatest annual rainfall in any of the 50 states, and thus the relative humidity

(Continued on next page)

THE REQUIREMENT that all the establishments in the Ala Moana shopping center be air conditioned gave comfort cooling a big boost. The above advertisement was run by a contractor who did many of the Ala Moana jobs, and shows how he used this in his promotion efforts.

In celebration of our 60th year of world-wide progress . . .

A Genuine Coleman

gas-lite

Yours to give now as a "buyer's bonus" when you install

Coleman

America's Only Bonded Line Heating and Air Conditioning

This new Coleman Gas-Lite is the key to the most complete and most exciting business-building program ever offered through heating and air conditioning dealers. Most complete because it includes every imaginable aid to selling. Most exciting because it gets an enthusiastic response from everyone in the market for heating or air conditioning.

Here's the plan. As an anniversary salute, we're making it possible for you to offer a genuine Coleman Gas-Lite to your customer with the installation of any Coleman central furnace, wall heater, floor furnace or air conditioner. It's an offer your prospects will go for when you give them the lamp as a bonus for buying now! For more information, use the coupon below or call your Coleman distributor for your complete program kit containing full details—*right away!*

Best selling tool of all—you offer this exclusive $500 bond with every unit you sell

Coleman's Gas-Lite promotion will be announced to home owners in the March 26 Saturday Evening Post

Also makers of famous Vit-Rock water heaters, Decorama space heaters, Coleman lanterns, camp stoves, jugs and coolers—mobile home heating and air conditioning

The Coleman Company, Inc., Wichita 1, Kansas

Quickly send more information on your Gas-Lite promotion.

Name_____ Title_____

Firm Name_____

Address_____

City_____ Zone_____ State_____

Air Conditioning In Hawaii--

(Continued from preceding page)
is quite high. But it has many scenic wonders, and since it is less than an hour's flight from Honolulu, it is becoming a major tourist attraction. New multi-million dollar hotels are reported to be scheduled for construction in the near future—one on the site of the beautiful beach where the motion picture "South Pacific" was filmed—and it is said that these facilities will be air conditioned.

Commercial Refrigeration Has Always Been Up To Date

Commercial refrigeration practices have always been quite well up-to-date in Hawaii, one of the reasons being that much of the food that is consumed in the islands has to be imported, and it has been vital that it be carefully refrigerated. Thus, when the Foodland supermarket in the Ala Moana shopping center came up with a layout that called for nearly 100 12-ft. display cases, many of them to be low temperature models, the Hussmann distributorship headed up by Harry Colvin took the job in its stride.

Quite a bit of refrigeration goes for frozen confection making and merchandising (the Hawaiians have quite a taste for such goodies) and there is also a good market for beverage dispensing equipment for both fruit juices and alcoholic beverages.

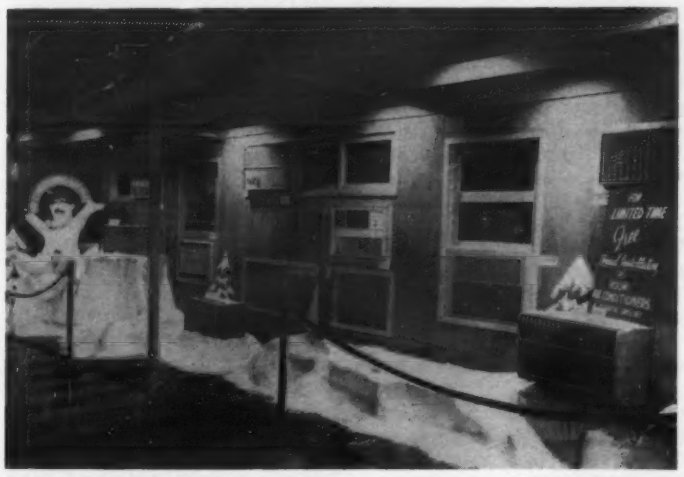
Contractors Faced with Shortage of Labor

Like contractors in sister states, those in Hawaii are faced with a shortage of good installation and service labor. While the author of this article was in Honolulu, he noted classified advertisements — which never stopped appearing—seeking refrigeration mechanics with a starting base pay of $2.40 an hour. Questioned about this, one contractor said:

"We are constantly seeking to augment our labor force, and we run the advertisements hoping we will pick up someone who has some experience or aptitude. We do some training, but it may not be enough to keep up with the growth."

Warning to Mainlanders

Before snowbound refrigeration mechanics on the mainland rush to take work on the islands, heed the words of the contractors who say "we would be reluctant to hire any mechanics, no matter how good their record, until we had investigated thoroughly their family and other background, and had satisfied ourselves that they meant to stay in the islands."



VIGOROUS PROMOTION of air conditioning, including wiring and other allowances, have marked the electric utility's interest in the field. Here is the Pacific Coast Electrical Association (Hawaii Division) room air conditioning display at the Home Builders Association of Hawaii Home Show. Display shows not only the various types of models available, but also the variety of ways in which they may be installed.

Chances for Industrial Growth Seem Slim

Will there be any industrial growth in Hawaii? The chances seem slim, although some firms such as General Dynamics and Kaiser Industries have given some serious thought to establish production setups there. There are two major problems: (1) transportation, because practically everything would have to be shipped in and out; (2) high living costs (housing 30% above comparable mainland costs, and gasoline at 46 cents a gallon, etc.) which works against any favorable labor costs.

However, the Hawaiian people do not think the outlook is too discouraging, and under the vigorous administration of its Gov. William F. Quinn, a Department of Economic Development has been established this year, with its mission the promotion of industry, agriculture, and tourism. It is headquartered at 1124 Miller St., Honolulu.

The expansion and "modernization" of the islands is not

(Continued on Page 29)

LARKIN
WATER SAVERS ARE MONEY MAKERS
HERE'S WHY...

Contractor-dealers throughout America are making money with LARKIN WATER SAVER COOLING TOWERS. *Here are 4 reasons why:*

1. QUALITY CONSTRUCTION
Larkin's reputation is staked on every unit. Durably built to last for years.

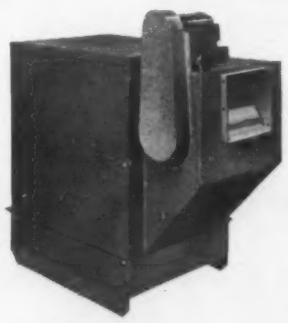
2. LOW INITIAL COST
You can make lower bids, save customers' money without sacrificing quality or efficiency.

3. RELIABLE PERFORMANCE
The entire wetted surface of redwood is designed for maximum cascading of water, which results in conservative ratings and top performance.

4. EASY SERVICING
Bolted construction permits easy access to all parts. Your profit is not eaten up in excessive service time.

Favored Features

- Wetted surfaces of all-heart redwood nailless interlocked construction. Easily removed.
- 16-gauge steel panels; 12-gauge steel sump.
- Mastic-coated interior. Exterior finished with epon-base, zinc-chromated primer and two coats melamine baked-on enamel.
- All models equipped with hot-dip galvanized propeller fans. Centrifugal blower optional on all models through 20 tons.
- Two and three-ton fan models have direct drive, totally-enclosed motors. All others are belt driven with drip-proof motors.
- Centrifugal blowers have self-aligning graphited bronze sleeve bearings mounted on outside for easy lubrication.
- Belt-driven propeller fans have stainless steel shafts, oil-impregnated bronze bearings with oil line and cup.
- Gravity-type distribution basin—low pumping head over tower.
- Water outlet in sump has large strainer and anti-cavitation plate, easily removed for cleaning.



CAPACITY DATA*		3 GPM/TON
Model	*Wet Bulb °F* *Inlet Water °F* *Outlet Water °F*	78° 95 85
2 WS	TONS	2.0
3 WS	TONS	3.1
5 WS	TONS	5.1
8 WS	TONS	8.1
10 WS	TONS	10.0
16 WS	TONS	16.1
20 WS	TONS	20.0
25 WS	TONS	25.1
30 WS	TONS	32.2
40 WS	TONS	40.0
50 WS	TONS	50.2

*Based on Tower Rejection of 250 BTU/MIN/TON

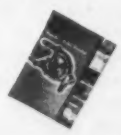
See Your Wholesaler Or write for Bulletin 1030-D

LARKIN COILS INC.
519 Memorial Drive, S.E. • P. O. Box 1699 • MUrray 8-3171
ATLANTA 1, GEORGIA

Handy Tube Bender
Smoothly Bends any pipe or Tubing ⅜"-1⅛" O. D.

• Just a twist of the wrist assures perfect, even bends — right angle, any angle, U and offset. Save enough on ONE job to pay for your HANDY BENDER.

See your supply house—or write for free folder today.



HOLSCLAW BROS., INC.
428 N. Willow Road • Evansville, Indiana

Looking for a Business to Buy . . . ?
Check the Business Opportunities Section in the classified advertising columns.

follow Scovill's suggested 5 point program

for pride in your installations and service to your customer.

SPECIFY AND INSIST UPON BRANDED U.S.-PRODUCED MATERIALS.

★

INSTALL ONLY SERVICE-PROVED MATERIALS USING TIME-TESTED METHODS.

★

DEMAND CLEAR IDENTIFICATION OF ALL MATERIALS IN ACCORDANCE WITH U.S. INDUSTRY STANDARDS AND CODES.

★

SPECIFY BRANDS YOU KNOW AND RESPECT . . . MADE BY U.S. CRAFTSMEN.

★

BUY FROM YOUR NEIGHBOR-WHOLESALER WHO IS PLEDGED TO GIVE YOU RESPONSIBLE, CONTINUING SERVICE.

★

MADE IN USA

and made better to bring out the BEST in every installation

THERE'S NO FINER ***quality control*** THAN THAT WHICH SAFEGUARDS

®

copper refrigeration tube

COPPER WATER TUBE K-L-M

COPPER THREADLESS PIPE (TP)

RED BRASS PIPE

COPPER PIPE

COPPER DRAINAGE TUBE (DWV)

SCOVILL MANUFACTURING COMPANY · COPPER TUBE MILL PRODUCTS, WATERBURY 20, CONN.

10SC60

AIR ENGINEERING

AIR ENGINEERING . . .

a monthly magazine for Air Engineers

Covering the art and science of managing air to make it useful and healthful for man in structures and manufacturing processes.

FOUNDED: April, 1959

RECORD TO DATE:

CIRCULATION: 5676 Paid—10,000 Guaranteed

ADVERTISING: 49 Advertisers

ADVERTISERS: from American Standard to Koppers to York

PRODUCTS: from Air Conditioners to Filters to Ventilators

For complete information—

Ask your nearest AIR ENGINEERING representative for a Market and Media File Folder or write direct for detailed information.

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CHICAGO: 134 S. LaSalle St., FR. 2-8643-4
DETROIT: 450 W. Fort St., WO. 2-0924

BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Michigan

Publishers of "Air Conditioning, Heating & Refrigeration News"

A "GOLD MEDALLION" apartment, with through-the-wall air conditioning, is representative of the "new" Hawaii. Sampling the air conditioning in the Waikiki Manor Cooperative Apartment are Carl J. Schiffers and Ralph B. Johnson, vice president and president of The Hawaiian Electric Co., with Ronald Reagan, motion picture and TV star. Much new construction in the Islands is being air conditioned.

Air Conditioning In Hawaii--

(Continued from Page 26)

met with the complete enthusiasm of all of the residents of the 50th state, particularly some of the old timers and some of those who migrated to the islands to get away from the hustle and bustle of the mainland. One of the latter wrote a poetic lament, published in a Honolulu periodical, which went as follows:

The islands I found were
Lovely flowers and trees in
profusion.
But alas, I have lingered too
Long, island calm's giving
Way to confusion.
The shovel, pick and electric
Saw, voice the cry of the
Dying trees.
Stone, mortar and glass
Appear everywhere.
Give us back, Please
The calm island breeze?

While many might sympathize with some of the sentiments expressed in the above, the chances of the islands reverting to a more simple way of life are quite remote. The "calm island breeze" will give way more and more to the less romantic, but in many instances more comfortable zephyrs provided by modern air conditioning.

Sheet Metal Distributors Will Meet April 21-22 In Columbus, Ohio

COLUMBUS, Ohio—The National Association of Sheet Metal Distributors will hold its 50th spring meeting April 21 and 22 at the Deshler-Hilton hotel here, announces Thomas A. Fernley, Jr., executive secretary.

Features planned include a presentation on "Training Your Salesmen" by Cloyd S. Steinmetz, director of sales training for Reynolds Metals Co., and four business clinics on the general topics of "Inside the Office," "Outside the Office," "Warehouse and Delivery," and "Advertising and Sales Promotion."

A welcoming reception is also scheduled for the evening of April 20.

Daniel Brown Heads RACCA of Chicago

CHICAGO—Daniel M. Brown was elected to the presidency of the Refrigeration & Air Conditioning Contractors Association of Chicago at its annual meeting held recently at the Builders Club.

Thirty supervisors and inspectors from the city's Dept. for the Inspection of Steam Boilers and Pressure Vessels, headed by James J. McKeague, acting chief supervisor, attended the meeting, to become familiarized with a new type of safety head designed to improve safety of operating refrigeration equipment, it was further reported.

Brown is vice president of Systems Engineering Corp. in Chicago. Other officers of RACCA of Chicago are: Harvey O. Miller of Murphy & Miller, Inc., vice president; and Oliver P. Crose of The Crose Co., secretary-treasurer.

Guido F. Restagno, president of Resco Refrigeration Service, Inc., who has served as the association's president for the past two years, becomes advisor to the board of directors.

George L. Johnston Co. Completes New Building

GRAND RAPIDS, Mich. — George L. Johnston Co., Carrier distributor for Michigan, has completed construction of a new building here.

Located at 629 Michigan, N.E., the building will house an independent branch with complete stocks of equipment, parts, and supplies to serve the western Michigan dealer organization more efficiency. The sales office, formerly in a different location here, will also be housed in the new building.

California Architects Urge One Building Code for Entire State

SAN DIEGO, Calif.—A resolution favoring one building code for the entire state of California to be enforced by building inspectors in city and country governments was unanimously endorsed by the board of directors of the California Council, American Institute of Architects, at its meeting here.

The resolution adopted said that: "In view of the serious, costly, and chaotic situation caused by the overlapping and conflicting building codes presently in use in California," it was resolved that the Council "sponsor a program dedicated to the development of a single uniform code for all building" in the state.

North Carolina Exams For Contractors Set for April 11

RALEIGH, N. C.—The North Carolina State Board of Refrigeration Examiners has announced that it will give an examination in Raleigh on April 11 for persons who wish to take the examination to qualify for a refrigeration contractor's license.

The examination is designed to ascertain the technical and practical knowledge of the applicants.

Persons planning to take this examination may secure an examination application form from the board's office in Raleigh. All applications must be received by the board on or before April 1.

Sell Climate by Chrysler

Dealers who sell Chrysler Air Conditioning . . .

don't face insecurity

The publisher of a leading air conditioning trade magazine has reported: "Since 1956, according to our records, one-third of the commercial 'package' air conditioning makers and another third of the residential air conditioning producers have dropped out of the race."

Those are pretty sobering statistics—even in a business as competitive as ours. A lot of dealers have been caught. Perhaps you've been one of them. Or perhaps you're next.

You needn't be—if you handle Chrysler Air Conditioning. We've been in this business since 1934. We're in it for the long haul. And we can prove it to you.

If you're interested in 10 reasons why your future is safer with Chrysler, send for the booklet, "It will pay you to take a long look ahead . . . with Chrysler Airtemp." Better yet, ask your Chrysler Distributor for a copy.

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What the Homeowner Knows--and Thinks About Air Conditioning for the Home

Industry Observer Gives Impressions Of Family Conference of Housing

● At the 1959 Family Conference of Housing, held last fall in Washington, D. C. under the sponsorship of the National Association of Home Builders, air conditioning was one of the 14 topics on housing trends and problems discussed by the participants. "Freon" Products Div. of the du Pont Co. underwrote a share of the expenses, which made possible air conditioning being included among the topics for discussion.

The delegates, 90 in all, included husbands and wives and also a teenage group comprised of five boys and five girls. Delegates sit in 10 each, with an impartial moderator, and each group discusses the topics on the agenda, including air conditioning.

During the period when a table is discussing a particular topic, an industry representative for that topic sits by prepared to answer any question which the moderator puts to him. H. N. McMenimen, eastern regional manager for the Central Air Conditioning Div., General Electric Co. Air Conditioning Department, was an industry representative at the 1959 conference.

The material on this page represents the "strongest impressions" which McMenimen took away from the Family Conference, and they contain much that should be useful to anyone selling residential air conditioning.

Impressions on Air Conditioning From Family Housing Congress

As recorded by H. N. McMenimen, General Electric Co. Air Conditioning Department (One of Two Air Conditioning Industry Representatives Present).

1. The **younger** the age group, the **more informed** are the people on the entire subject of home air conditioning. The older people seemed unbelievably ignorant on the subject. The teen-age group knew all the benefits—health, cleanliness, increase of real estate value, family togetherness — everything. The youngest husbands and wives were almost as "up-to-date."

It so happened that the table groups kind of sorted themselves out by age groups and those in the older category seemed to know little about air conditioning other than that accomplished by a room unit.

2. The **benefit mentioned most repeatedly,** both by those who have air conditioning of some kind and those who knew people with air conditioning or had some contact with it, was **Better Dispositions** — children easier to handle, better family relationship because of better dispositions, many mentions of **being able to relax** under cooled conditions.

3. Many comments were volunteered regarding **health benefits,** case histories of allergy sufferers, heart patients, old age cases. Testimony was offered about physicians ordering air conditioning for patients.

4. Many women raved about the benefit of **being able to do their household chores** in a cool atmosphere. A surprising number spoke of their interest in cooking—how they are denied this as a pleasure when their kitchen is not air conditioned. A couple of the delegates indicated that this alone made air conditioning worth while.

5. Much agreement that heat and humidity **"sap one's strength."**

6. In answer to a prepared question by the moderator, "What item of comparable value would you choose in preference to home cooling?"

. . . Most men said—a swimming pool.

. . . Several women said—a screened porch.

. . . Those already living with air conditioning said with emphasis—"Nothing is as important as air conditioning."

7. As to their views of "disadvantages."

. . . Men—high cost of operation.

. . . Women—don't like all doors and windows closed.

. . . Those having only a room or two cooled complained about having to go from a cooled room into the other hot ones.

8. Of all the delegates, only

This is the END of room cooler AIR FILTER PROBLEMS!

- RIGID ALUMINUM CONSTRUCTION ...holds shape, won't shred
- EASILY CUT TO SIZE... with knife or scissors
- SOLVES SPECIAL SIZE INVENTORY PROBLEMS
- HIGHEST EFFICIENCY adapted from famous E Z Kleen design
- 15" x 24" SIZE... cut to fit almost all units

$1.75 LIST PRICE

- WASHABLE... with water
- GERMICIDAL... Super Filter Coat Adhesive contains Hexachlorophene, the famous bacteria killer
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- PACKAGED IN POLYETHYLENE printed envelope
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- FIELD FABRICATION KIT Jumbo size media, framing material and simple effective tools available for easy fabrication of framed filters

RP® TRIM-TO-SIZE EZ KLEEN® AIR FILTER

RIGID ALUMINUM CONSTRUCTION ...holds its shape, won't shed particles, is safe, clean and easy to handle.

ELIMINATES STOCKING OF MANY SPECIAL SIZES...Easily cut to size, the 15" x 24" Trim-To-Size Filter together with the standard E Z Kleen for popular sizes fulfills virtually all room cooler filter requirements.

WASHABLE...with a stream of water. A real sales feature that keeps filter and unit at peak efficiency.

FULL PROFIT MARGINS...The Trim-To-Size E Z Kleen is the only product of its kind on the market. Cut-price competition from "almost the same" products is eliminated.

PROMOTION HELPS...Envelope stuffers, streamers, catalog sheets, ad mats are all available for special promotions.

PLUS EXTRA PROFITS with Super Filter Coat Adhesive

The fast selling adhesive, in two handy containers—with push button spray for self-contained pump spray. Gives you the sales story of odor-removal, germicidal property, simplified washing and like-new efficiency after re-coating.

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Convenient, space-saving wire display rack holds attractively packaged Trim-To-Size Filters and a large supply of Super Filter Coat Adhesive. Accelerates sales of both filters and adhesive. Available at your jobber.

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157-06 N. BLVD.
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Two men can install transom units safely. One man service. Contact your local distributor or write us.

one person, and this a teenager, knew anything about the offsetting savings with air conditioning (such things as less cleaning, less entertainment cost, less first cost in new homes construction, better real estate values) in relation to its first cost or cost of operation.

9. Constantly popping up were **comments relating to children**—will **take naps** if home is air conditioned—easier to get along with—doctor tells of benefits where asthma is encountered in children. A little on the negative side, the matter of continually having to tell children to keep the doors closed. Judging from this, much of parents' reaction on air conditioning is influenced by its effect on children.

10. **Men** mentioned they were in **"better shape" after working** in an air conditioned office.

11. Some men said they would not add cooling to present house, but would include cooling when buying a new home. One commented that if had known the true cost of including air conditioning when a new house was built compared to the cost of adding it later, he would have insisted on including it when the house was built.

12. **Few seemed to know** that central cooling can be **easily added** to a forced warm air heating system.

13. Some men said they would buy cooling if that's what it takes to make their wives happy.

Michigan Heating Group Meets Mar. 9

GRAND RAPIDS, Mich. — Such topics as atomic energy, electric and LP gas heating, and air conditioning have been slated for the 49th annual convention of the Michigan Heating & Sheet Metal Association to be held at the Pantlind hotel here March 9 to 11.

Although the convention doesn't formally open until Thursday afternoon, March 10, there'll be an auxiliary symposium Wednesday and Thursday at 10 a.m.

The preliminary program as announced by N. J. Biddle, secretary, is as follows:

Thursday, March 10

12 p.m.—Luncheon; speaker: George F. Taubeneck, editor and publisher, AIR CONDITIONING, HEATING & REFRIGERATION NEWS.

2 p.m.—Formal convention opening by President John de Haan; "The Hottest Fuel," by John Kelderhouse, field secretary, national L.P. Gas Association; "Air Conditioning Nuts & Bolts," speaker to be announced.

Friday, March 11

10 a.m. — "National Silver Shield Program," Richard von Munkwitz of NWAHACA; "Atomic Energy," Robert W. Hartwell, general manager, Power Reactor Development Co.; "Heating Outlook for Michigan," B. G. Campbell, vice president-marketing, Consumers Power Co.; "Sell for Keeps," E. J. Van Faasen, regional sales manager, Temco, Inc.

2 p.m. — "Electric Ducted Heat," Coit Lytton, sales manager, Lennox Industries, Inc.

Builder Paints Heat Pump Ads On Living Room Wall

FRESNO, Calif. — An enterprising builder's efforts in promoting heat pumps has paid dividends.

Builder John Bonadelle has successfully completed a 150-home subdivision in Fresno. Over 30 of the homes are equipped with Mueller Climatrol heat pumps. The remainder have horizontal furnaces.

Bonadelle promoted heat pumps in an area where they had not been featured for subdivision homes, it was reported. He used newspapers, radio and television advertising, and published a home planner magazine featuring heat pumps.

One of his most interesting promotion items consisted of painting the walls of his model homes with Mueller Climatrol heat pump advertisements.

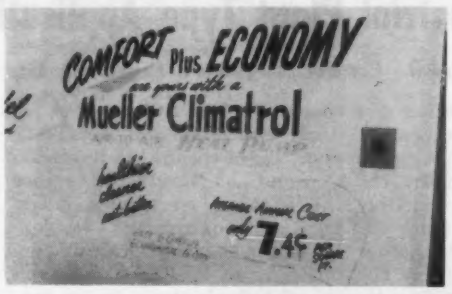
Howell Air Conditioning has been doing most of Bonadelle Homes heating and air conditioning work for four years.

"By working closely together," it was pointed out, "they have developed an unusual operation:

"Tract homes are so well planned and scheduled that all materials may be made up in advance and stockpiled. Ductwork is prefabricated and insulated in the Howell shop. Installation men pick up ducts as homes are being roughed in."

Bonadelle specifies and Howell uses a distribution system of high sidewall supply and low sidewall return.

Builder Bonadelle reports that his home buyers are well satisfied with the heat pumps and horizontal furnaces.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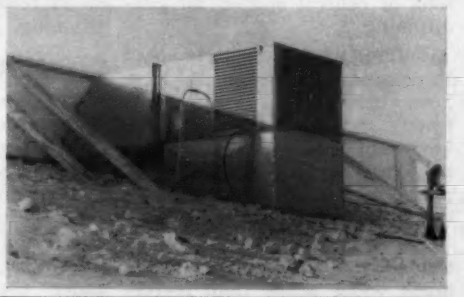
MESSAGES SUCH as this decorate the living room walls of model home in Bonadelle 150-home subdivision in Fresno, Calif.



THIS SELF-CONTAINED heat pump is mounted on the roof of the tract office, giving the builder an additional opportunity to promote their sale.

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Cool 'em with

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Rangaire Has the Extras that Mean More Sales

Imagine! air conditioning that costs less to install, less to operate (up to 30 per cent less) than competitive brands. It's a dealer's dream come true. And on top of that, Rangaire has lots more sales-paced extras to cool the hottest competition. Just look at them!

A Complete Line Of Units To Fit Every Need
A Price To Fit Every Budget
Easy Installation — Completely Packaged
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All Components, Extra Large Capacity
Proved In Nation's Heat Belt
Extra Long Life
Factory Guaranteed

A Rangaire dealer-franchise makes good sense because Rangaire dealers have what it takes for sales.

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Please send complete information on Rangaire franchise.

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Buyer's Viewpoint on Packaged Units Vs. Central System —For an Industrial Plant Type Application

By William D. Rodrick, Project Engineer, Raytheon Co.

A penetrating analysis of some of the reasoning that goes into the selection of a particular type of air conditioning for an industrial plant and its varying facilities is presented in the accompanying article.

It was presented as a talk "Package Units Versus Central Station System" by William D. Rodrick, project engineer, Raytheon Co., before a "Customers' Forum" held by York Div., Borg-Warner Corp. In these Customers' Forums a representative from one of the many types of markets for air conditioning is invited to present a "customer's viewpoint" and this is followed by an open discussion in which York officials participate.

The provocative question has been asked "why" Raytheon Co. would select in one of its plants in the same year, and, by the same division, approximately 500 tons of package units for air conditioning, and in another of its plants approximately 600 tons of central station air conditioning.

Before we attempt to take this apart and analyze it, I believe it desirable perhaps to briefly review the customer's viewpoint on the definition of air conditioning. As the word is loosely used here we are talking primarily of air cooling.

We are all aware, of course, that air conditioning covers a much wider scope than merely cooled air. The full scope of air conditioning has been applied in many cases within the Raytheon Co. and, as Raytheon typifies the growing electronics industry, so requirements for extremely close controlled air conditioning in Raytheon are typical of today's trend in air conditioning.

Special Needs a Factor

First, to cite a few of our problems which we have had in the past where we have taken full advantage of the modern air conditioning equipment available today. In one case, we were required to develop a dust tight, dust free room to operate under conditions much more closely controlled than those of the best hospital operating rooms in any part of the world.

The first requirement was that of lint, where we were required to hold a lint count within the room to 10 pieces of lint per square inch per hour as deposited on an oil film, in any location in the room, while occupied by approximately one female employe per 15 sq. ft.

The second requirement was that of humidity. Here we were required to hold year-round humidity to 50% r.h. ± 5%. The third requirement, temperature, required a temperature of 72 to 74° dry bulb year around.

This is one of the conditions which is typical, as I have pointed out before, of the extreme precision that air conditioning has taken in today's world of electronics.

First step in the analysis of the requirements for air conditioning equipment would best be expressed by clearly stating the means of transporting air conditioning from the electric utility pole line outside the plant to the area where the air is to be cooled. Examination of this shows that the transportation is accomplished first, by the electric wires in the form of electrical energy coming into the plant to the central distribution point. We may state here that this is common to any form of air conditioning equipment but, from here on, we deviate to several paths of transportation.

Primary Considerations In a Large Installation

With consideration to a central station system, it becomes obvious that a short path of travel of the electricity from the central distribution point to the central station air conditioning equipment is the end of the electrical means of transportation.

If the plant being served is a small one with rather confined distances of travel, the obvious means of transportation from the central station equipment room will be by air through suitable ducts from a central station air handling unit.

However, if the plant is more extended, either horizontally or of multi-floor type construction, or to extend the example one more step, to a multi-building operation; the common means of transportation today is by chilled water. This takes us to localized air handling units where the air conditioning, having been transported by the chilled water, is now transferred to air where it is delivered to the individual rooms or areas by air in suitable ducts.

Cheaper to Transport Electricity or Liquid?

If we are to consider individual packaged units in the various areas of the plant, then we may say that the air conditioning will be transported over the electric lines into the individual areas supplied by these packaged units. From an efficiency standpoint, I am sure we will all agree that here we have the most efficient means of transportation to the areas to be served as compared with chilled water and its attendant losses through friction and radiation. We have some offsetting disadvantages to this plan, however, which we will discuss.

The above remarks will seem quite elementary to you in the air conditioning business. However, I have stated them for the reason that we in the customer's position frequently forget these basic facts and overlook many other simple rules of thermodynamics in trying to apply air conditioning to our new or existing plants.

The next basic step in analyzing the requirements for air conditioning would seem to be what the desired or end results are to be. Here we must ask the question as to whether the cooling is to be classified as comfort air conditioning or if the

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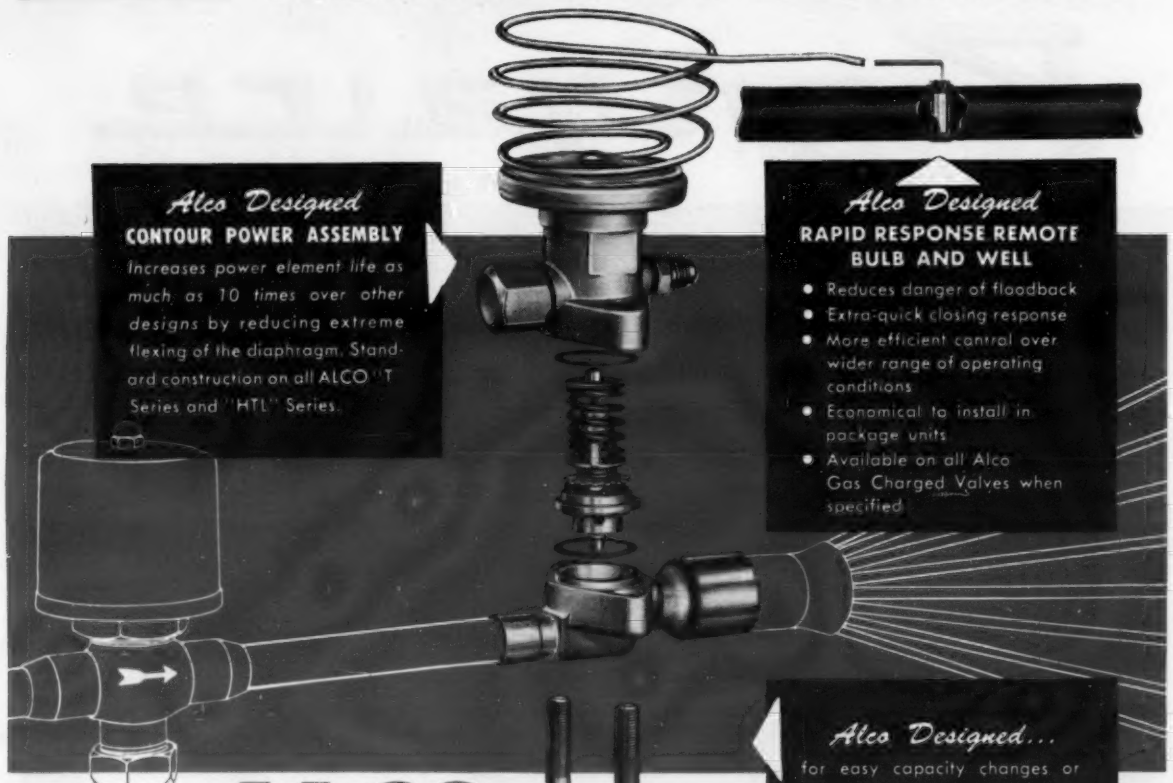
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requirements are to meet certain process requirements. We must further analyze to find out whether or not the requirements in various areas will be varied between themselves, requiring more complicated control equipment.

Nature of Building Is A First Consideration

The next point of consideration which seems quite important to me is the analysis of existing conditions. This breaks down to whether or not we are dealing with an existing operation in an existing building or a new operation in a planned new building, or maybe the transfer of existing operations to a new plant.

Here we open up a whole new field of variables, each one of which must be carefully analyzed and given its due consideration and weight and quickly discarded if it is found that the percentage of variance is not large enough to affect the overall picture.

With regard to buildings, the obviously most simple type is the single story, single building plant either already in use or on the drawing board for design. Our main variable here will consist of the existing or contemplated occupany.

Our most simple type of occupancy obviously is that of the office or laboratory type of occupation, where most of the heat gain is built up by the occupants themselves rather than process loads. Conditions become more complicated as various types of processes are introduced in varying parts of the building. These may introduce concentrated heat gain areas requiring special attention. Also, frequent high exhaust areas requiring fast changeover of air due to dust or fume conditions and require large quantities of cooling air to make up for the exhaust system.

What About Space and Power Availability?

Another variable for serious consideration is the available space for air conditioning equipment. This is particularly true when considering an existing building, possibly on a confined piece of property, but is not to be ignored by any means in the construction of a new plant particularly in a congested urban area.

Then we have the problem of the available power and water, particularly electric power. Availability can be expressed as available at the property site and again later developed as available within the building and areas to be served.

In some cases, some of which I have encountered personally, electric power availability at the property site has been a very serious problem as the local utility is not always equipped to make available the required amount of power in that particular area due to undersized lines, sub-stations or transmission facilities requiring heavy investment on their part. Usually this requires lengthy negotiations with the utility company with serious discussion as to the probable length of occupancy in order to justify their investment of money in suitable equipment to serve their customer.

A further variable requiring analysis is concerned with whether or not the building or buildings are owned or leased and what type of lease is in existence. This opens up another point of discussion with regard to invested money as compared with the lease of equipment. Not being an accountant or controller, I would prefer to side step this discussion for I feel it requires a separate field with a separate and distinct expert in this line of analysis.

Must Be Aware of Future Expansion

Going on to the next variable to be considered, serious thought and investigation must be made of all areas under consideration for cooling as to the existing heat gains and any expected future heat gains that can be predicted. This requires in some peoples minds a considerable amount of crystal ball gazing.

However, this is a very important matter in the analysis for air conditioning, whether it be by central station or package units, as a system put in under tight specifications without any scope of expansion or flexibility can be a tremendous problem to the engineer in trying to adjust the system to accommodate varying future conditions. It can be equally difficult for him to attempt to explain to his management how it is that the system does not have capacity and flexibility to take care of these conditions.

'Flexibility' of Top Import In Plant Jobs

Let's dwell for a moment on the word "flexibility." Sometimes I feel that I overemphasize my thinking of flexibility with regard to air conditioning but, on the other hand, on further analysis I realize that there is sound reason behind my continual stressing of flexibility in the design of an air conditioning system.

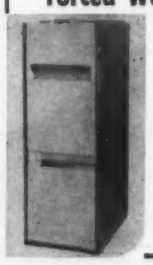
The Raytheon Co., as you are undoubtedly well aware, has grown by leaps and bounds and has taken a substantial position in the electronics industry. The very nature of this work requires that maneuverability within Raytheon's varying operations be extremely flexible.

A typical example of this has been the growth of the transistor business within our company. Our first introduction into this field consisted of setting up one bench and exhaust hood in a small room approximately 10 by 15 ft. Within one year, this had grown to several thousand square feet of development and pilot line operations. Within two years this new product was on the market in production quantities.

This department was moved continuously from one building to another, and from one plant to another as the demand for transistors grew. Today, Raytheon is building a special plant in Lewiston, Me., for the sole purpose of the manufacture of

(Continued on Page 35)

Heat Controller Re-Enters Forced Warm Air Field



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The Model AR26 Pancake is the answer for a low cost, small size, lightweight compressor for Portable air conditioners.

The new AU Pancake Series expands this popular shell design to a line of 1 HP compressors including 7½ and 12 amp models. Two 1 HP single cylinder compressors are offered which can also be used for heat pump applications.

A complete line of twin cylinder models starting at 1 HP includes a 7½ and a 12 amp model, and the biggest capacity Twin on the market.

Within these models, variations in mounting parts, tubes, electrical characteristics, etc. are available. Whatever your requirements may be, the Tecumseh line of Air Conditioning Compressors will meet them and serve you better in every application. Investigate today.

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by

Jimmy Hatlo

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TACKS!
WIRE! MORE WIRE!
MY DRILL! BRING ME MY DRILL!!
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THANK AND A HATLO HAT TIP TO GARY W. STELLER, ROUTE 3, BOX 216, DUNDEE, ORE.

Private Enterprise in Slum Districts Through 'Package' Air Conditioning

BEST HOPE for revival of private enterprise interest in lower bracket apartment houses, which now are in a general decline, lies in the fact that money CAN be made in their modernization.

By remodeling a low-rent structure—*and including package air conditioning*—a successful investor can obtain interesting profits through higher rental income and expanded capital values.

Not all remodeling jobs are successful, of course. Some are ineptly done, while others should never have been attempted in the first place. Big point is:

Air conditioning can be profitable even in the so-called "slums."

To avoid a costly failure, the investor must realize that need for modernization stems from three kinds of obsolescence—physical, mechanical, and economic. Moreover, obsolescence is not simply a matter of age—it's concerned with the universal Desire for Better Living.

Physical obsolescence is related to design and structure. While this sort of thing can be corrected, there are some dwellings which are too far gone for profitable improvement.

If a building's floors are not capable of carrying today's heftier appliances, if new wiring and air conditioning or heating ducts cannot be installed conveniently—then a rundown place probably isn't worth modernizing.

Mechanical obsolescence of office structures has been increased in recent years, thanks to tenant demands for air conditioning, automatic elevators, sound control, and a host of other innovations.

Buildings which went up right after World War II, though still in style architecturally, have become obsolete in these regards almost overnight.

So, you see, the problem which confronts slum-housing converters is somewhat similar—but in reverse. In this case, the street address or external facade isn't nearly so important as interior comfort and charm.

That's where air conditioning enters the picture.

People who are unhappy in existing city multiple residences rarely can move out and "leave old messes behind," simply because too little has been done about metropolitan renovation *anywhere*.

Metropoli must rebuild—and on a large scale—to meet the demands of tenants who dislike suburban living ("that damned grass!"). Fortunately, it is profitable to do this renovation.

Necessity for reconstructing uncomfortable dwellings in U.S. cities undoubtedly will be intensified by the following forthcoming developments. They'll reinforce and intensify one another:

By 1970 the U.S.A. population will rise to 213 million or more. By 2000 it may reach 375 million.

During the next decade 10 to 20 million automobiles and $60 billion worth of new highways will be added to our crowded scene.

"Suburbia" thereupon will merge into vast, contiguous city-states. Even "that damned grass" may disappear and dissolve into pavements, thru-ways, and continuous skylines.

All of these crowdings will compete for living room on the same total land area we now inhabit.

To accommodate these "explosions" a $500 billion increase in new residential and office construction—equal in value, though not in bulk, to all existing structures—must ensue in the next several years lest people sleep in tents and work on sidewalks.

Rebuilding and renovation is profitable business right now. Obviously, it will get much, much bigger!

Economists estimate further that for every three dollars spent on new construction, another dollar is spent on maintenance and repairs. Our annual U.S. maintenance and repair bill is over $20 billion, and alterations and additions of all kinds cost another $12 billion a year.

What a promising market for the related heating-cooling-plumbing home renovation industry! It puts URGE into the "Surging Sixties!"

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AIR CONDITIONING HEATING & REFRIGERATION NEWS

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F. M. COCKRELL, *Founder*

'The Conscience of the Industry'

Published Every Monday by BUSINESS NEWS PUBLISHING CO., 450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924. Subscription Rates: U. S. and Possessions and Canada: $6.00 per year; 2 years, $9.00; 3 years, $12.00. All other countries: $10 per year. Single copy price, 40 cents. Ten or more copies, 30 cents; 50 or more copies, 20 cents each. Send remittance with order.

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VOLUME 89, NO. 10, SERIAL NO. 1,615, MARCH 7, 1960

RE: BUILDING RESIDENTIAL SALES EDITORIAL

'It Contains Much Food for Thought'—Association

Tarrant County
Air Conditioning Assoc.
Fort Worth, Texas

Editor:

The conscience of the Industry Editorial by Mr. Taubeneck, in your February 8th issue "Here's How to Build Residential Air Conditioning Sales—Service" contains much food for thought and should be absorbed by those Contractor-Dealers who are guilty of such practice.

This Association has been "preaching" along the same lines for some time but we still have a few here in the Southwest who can't see the "forest for the trees."

Could you send us 25 copies of this Editorial or permission to republish?

EDWIN D. MCCOY,
Executive Secretary

'Expresses Problems Vividly'—Manufacturer

General Electric Co.
Tyler, Texas

Editor:

In the February 8 edition of your publication, I read with great interest George Taubeneck's editorial entitled "Here's How to Build Residential Air Conditioning Sales-Service."

The editorial expresses quite vividly the problems that those of us who are in the service training picture are constantly facing and I would like to take this opportunity to compliment George on the excellent article.

I am seriously considering distributing this editorial directly to all of our dealers throughout the entire United States.

J. S. MATACHINSKAS,
Manager

Handy Way to Subscribe

To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING, HEATING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on residential, commercial, and industrial air conditioning, heating, and refrigeration for contractors, dealers, consulting engineers, distributors, servicemen, and manufacturers. Read the industry's only newspaper every week—you'll profit by it—only $6.00 per year, 52 issues (U.S. and Canada). Foreign: $10 per year.

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Name.....
Company.....
Street.....
City..... Zone..... State.....
IMPORTANT: Company's Type of Business.....

Packaged Units Vs. Central System--

(Continued from Page 33)

semi-conductor products.

This has been typical of many of Raytheon's products requiring re-use over and over again of buildings and areas originally set up for one product or one operation and suddenly turned over to another department or division for entirely different use than originally intended. An area which today may be a drafting room within one week may be a laboratory or machine shop.

Should Design System For Future Expansion

I am sure no company can afford to put in air conditioning into a plant or building that will accommodate such a wide range of occupations within an area over a period of time. However, it must be said that it is pretty shortsighted if a company does not take the position of installing their air conditioning to at least accommodate the expected type of occupation for the type of business that they are in.

This does not mean that they will take care of every type of high concentrated heat gain, fume or dust condition, or high exhaust c.f.m. rate. It does mean, however, that the intelligent approach is certainly to give serious consideration to a protective or safety factor in the design of the basic equipment including the main power supply, basic compressors, fan units and main duct system. This, in my mind, is an extremely cheap insurance and has never failed to pay dividends where we have been able to practice it.

What Brought Selection Of Packaged Units

To get back to our original provocative question of "why" Raytheon in one instance purchased the 500 tons of packaged units in one plant, and within weeks purchased approximately 600 tons of central station units in another plant, I believe that we can answer this best by examining the two plants briefly.

In the first instance, where the package units were installed, we were in a leased building of the conventional saw-tooth, high sun load type of construction. Basically, this is a manufacturing department on 100% government contract work, with funds available for air cooling from the government on a leased basis.

Furthermore, this plant had unit heaters equipped with air ducts already installed, the duct system of which was available to convey the cooled air from the cooling package units.

There was no area available without building a new building for a central station, and the obvious answer was to bring in suitable power to the packaged units and make use of the existing duct system, even though the ideal conditions could not be realized which could have been obtained from a carefully designed central station system.

The employes in this plant were working under such extreme adverse heat conditions that literally any improvement would have been accepted as a blessing and the packaged units have performed marvelously well under the adverse conditions that they have had to operate.

With respect to the central station system of 600-ton capacity, we approach a subject most dear to my heart, "The Heat Pump."

(In this connection, Rodrick described the considerations that went into the selection of a central system employing a heat pump for its new electronics laboratory in Sudbury, Mass. This discussion will probably be presented in a subsequent issue of the NEWS. It does not bear too much on the preceding discussion, because, as Rodrick stated "it is only fair to say that the building at Sudbury was planned for air cooling from its inception" and there were other special considerations involved.)

'Bermuda Island Getaway'

Distributors To Set Conditions for G-E Air Conditioning Dealer Awards Trip

TYLER, Texas — Announced recently was General Electric Central Air Conditioner's 1960 dealer incentive trip.

Called the "Bermuda Island Getaway" (BIG), the trip offers General Electric dealers a deluxe, all-expense paid luxury vacation to that island. The winning dealers, according to Joe Heffernan, G-E's manager of advertising and sales planning, will fly to the "Isles of Summer" via chartered airliners.

Heffernan pointed out that all General Electric central heating and air conditioning dealers are eligible to enter the "BIG" contest.

Although set up as a national incentive, the administration of the Bermuda Island Getaway is completely handled by each individual General Electric distributor for his own dealers, giving the contest flexibility to meet local conditions, it was pointed out.

Heffernan said every G-E distributor sets up a contest for his dealers, assigning each a contest quota. The dealers reaching the great per cent of or above quota wins a Bermuda trip for himself and his wife.

"In addition to the trips won from General Electric under the rules of the contest, additional trips may be purchased by distributors at nominal cost to be used as further incentives to suit special situations," he noted.

3 HP
Self-Contained Air Conditioner

Model PA 30-A

- ★ In 2, 3, 4, and 5 HP
- ★ Available in summer-winter heat pumps
- ★ UL Listed for outdoor installation
- ★ Low silhouette for flat-roof work

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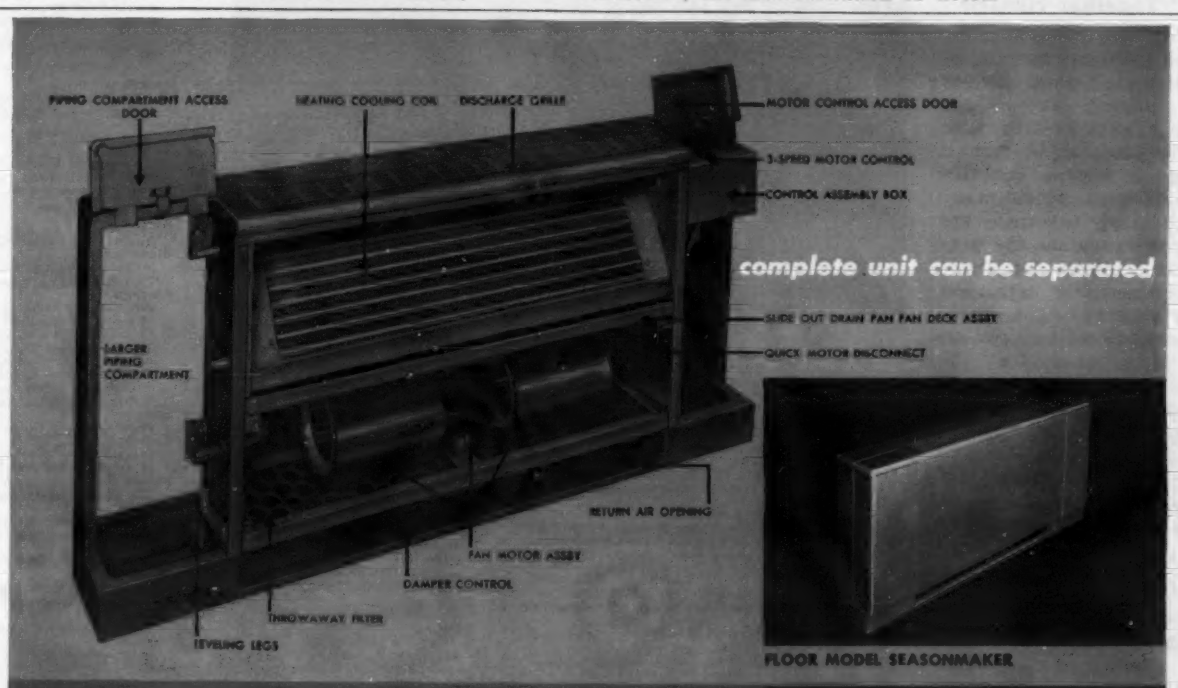
Operating Costs of Residential Air Conditioning and What This Means to Dealers and Installers. By R. A. Gonzalez—25¢ each.

Mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.



So Versatile, So Dependable ...and So Easy to Work With

McQuay thin-line design SEASONMAKER

McQuay thin-line design individual room Seasonmakers are popular, not only because of their convenient size, their high efficiency and their inherent quality, but because they are so extremely versatile and dependable. Every part is easily and quickly accessible. They are easy to install and easy to work with. For example, filters are easily changeable; the slide-out fan deck is quickly removable; the hand of coil is easily reversible in the field.

All McQuay Seasonmakers utilize central station heating and cooling and are available with capacities of 220, 330, 440, 520 and 640 cfm. They furnish individual room comfort at any desired temperature level—heated, filtered air in winter and cooled, dehumidified and filtered air in summer. Seasonmakers are ideal for multi-room buildings such as hotels, apartments, motels, schools, hospitals, offices and residences.

If you haven't already done so, investigate McQuay individual room Seasonmakers. For complete information call the McQuay representative in or near your city, or write McQuay, Inc., 1607 Broadway St. N. E., Minneapolis 13, Minnesota.

ONLY 8½" THIN
25 INCHES HIGH

4 Models In 5 Sizes

McQuay INC.
AIR CONDITIONING • HEATING • REFRIGERATION

A 'Parts and Pieces' Story to a Homeowner?

A Top Texas Salesman Carries a 'Rig' Full of Parts, Gains Attention, Gets To Tell Complete Sales Story

DALLAS—A man whose employers call him "the top residential air conditioning salesman in Texas" credits a lot of success to what he calls his "rig"—and he doesn't mean oil drilling equipment or some conveyance to take him around on his calls.

Arch Hughston's "rig" is a carrying case fitted with parts of an air conditioning system, some life size, some miniaturized, together with some photographs and drawings, which he uses in explaining to a prospect what's involved in air conditioning, and in telling a story of "quality."

Put 'Rig' Together Himself

Hughston does his selling for the Frymire Engineering Co. of Dallas. His "rig" which he put together himself, and which looks like a somewhat oversize sample case and can be carried around by a handle, contains some pieces with which many air conditioning salesmen are not familiar—let alone the general public. Among the items are: a thermostatic expansion valve, refrigerant sight glass, cooling coils, vibration isolation material, insulation for the ductwork and suction lines, a heating-cooling thermostat.

On the back side of the removable front of the kit are mounted an assortment of photographs, drawings, and literature. Included among these are a "comfort guarantee" form; a colored reproduction of the refrigeration cycle; literature sheets which show various major components of a residential air conditioning system; and photographs and literature sheets on a control center.

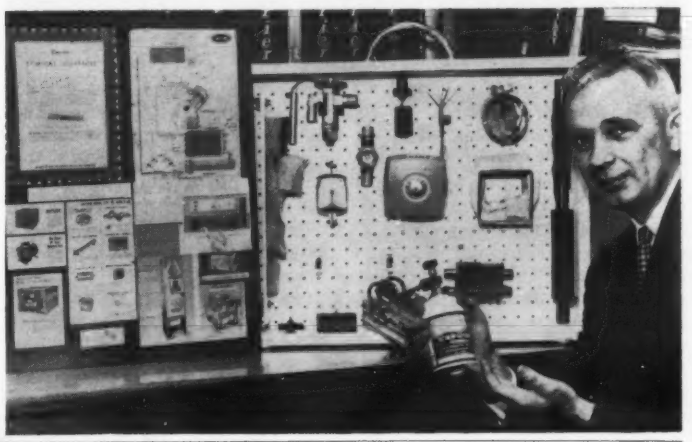
As a salesman, Hughston would seem to be "bucking the tide" of "expert" opinion on selling air conditioning, which is to the effect that what must be sold is a "result" or a "condition" rather than a "nuts and bolts" story.

Sees Place for Effective Parts and Pieces Story

But Hughston's experience indicates that there is a place for an effective parts and pieces story, one important reason for its effectiveness being that prospects really know little about how "comfort cooling" is produced, and most of them fail to get any "message" from the ordinary run of literature which a salesman may bring with him. But perhaps it may be best to let Hughston explain in his own words how the kit has helped him sell.

"My main idea in putting together the kit with the parts and pieces of the system was to have something tangible to put in the prospects' hands while I was talking to them—something they can see and handle.

"It gives you a much better chance to explain and sell the concept of air conditioning, which is pretty intangible. Actually what you are selling basically is a temperature condition, or a condition of air, and that is something no one can



A PARTS AND PIECES story to sell residential air conditioning? Some sales "experts" said "it couldn't be done," but Arch Hughston, who has been heralded as possibly the top residential air conditioning salesman in Texas, finds it effective. On the pegboard side of the interior of his "rig" or carrying kit are mounted such pieces as an expansion valve, piece of round duct with damper, cooling-heating thermostat, refrigerant sight glass, duct insulation, pipe insulation, vibration eliminators, and a piece of a cooling coil. Hughston holds his "$1.95 air conditioning system," a can of refrigerant attached to a cooling coil. This enables him to present a more graphic description of the cooling cycle. At the left is the back side of the removable front of the kit, on which are mounted a drawing of a cooling cycle, pictures of major components in a system, and a copy of a "comfort guarantee."

Your nearest authorized RANCO wholesaler is listed here

See the Ranco wholesaler nearest you for your control requirements. Consult your telephone or city directory for his address. The Ranco line includes temperature and pressure controls for commercial and domestic refrigeration and air conditioning, reversing valves for heat pumps, and refrigeration motor relays. Controls for additional applications are constantly being added to the Ranco line.

(Wholesalers list as of January 15, 1960)

ALABAMA

Birmingham
Budlock Refrig. Supply Co., Inc.
Refrigeration Supplies Distributor
Wittichen Supply Company
Dothan
Hand Supply Company
Huntsville
Budlock Refrig. Supply Co., Inc.
Mobile
The Enochs Sales Company
Harris Supply Co., Inc.
Refrigeration Supply Co., Inc.
Montgomery
Nolin-McInnis, Inc.
R & H Supply Company
Teague Hardware Company

ALASKA

Anchorage
Homer's Wholesale Refrigeration

ARIZONA

Phoenix
Arizona Refrig. Supplies, Inc.
Authorized Supply Co. of Arizona
Refrigeration Supplies Distributor
State Equipment & Supply, Inc.
Tucson
Arizona Refrig. Supplies, Inc.
Authorized Supply Co. of Arizona
Yuma
Arizona Refrig. Supplies, Inc.

ARKANSAS

Fayetteville
Central Supply Company
Fort Smith
Central Supply Company
N. O. Nelson Co. of Fort Smith
Little Rock
N. O. Nelson Co. of Arkansas
Refrig. & Electric Supply Co.
Texarkana
Interstate Elec. Co.
of Texarkana, Inc.

CALIFORNIA

Bakersfield
Kern Refrigeration Supply, Inc.
Refrigeration Supplies Distributor
Berkeley
Rauch & Monroe
El Centro
Allied Refrig. Suppliers, Inc.
Refrigeration Supplies Distributor
Fresno
California Refrigerator Company
Devlin-Drew Company
Thermal Products, Inc.
Long Beach
L. B. Marsh Allied Refrig. Co.
Mutual Supply Company
Los Angeles
Air Cold Sales, Inc. (2)
Arrow-Risco Inc.
Authorized Supply Corporation
Brea Supply Company
George T. Hall Company
Pacific Metals Co., Ltd.
Refrigeration Service, Inc.
Refrigeration Supplies Distributor
Thermal Products, Inc.
North Hollywood
Arrow-Risco Inc.
Oakland
California Refrigerator Company
Hinshaw Supply Company
William Wurzbach Company
Palm Springs
Allied Refrig. Suppliers, Inc.
Riverside
Refrigeration Supplies Distributor
Sacramento
Acme Supply Co., Inc.
Associated Refrig. & Equip. Co.
Hinshaw Supply Company
Santa Barbara
Lear Supply Company
San Bernardino
L. B. Marsh Allied Refrigeration
Valley Refrigeration Supply Co.
San Diego
Allied Refrig. Suppliers, Inc.
Phillips Refrigeration Supplies
Refrigeration Supplies Distributor
San Francisco
California Refrigerator Company
Hinshaw Supply Company
Pacific Metals Co., Ltd.
Refrig. & Power Specialties Co.
San Gabriel
Arrow-Risco, Inc.
San Jose
A. G. Pond Company
William Wurzbach Company
Stockton
Refrig. & Power Specialties Co.

COLORADO

Denver
McCombs Supply Company
Refrig. Dist. Corp. of Colorado
Pueblo
J. F. Dammann Supply Company

CONNECTICUT

Bridgeport
Parsons Bros. Inc.
Hartford
The N. W. Day Supply Company
Melchior, Armstrong, Dessau Co.
Joseph Simons Company
New Haven
Resco, Inc.
South Norwalk
Standard Supply of
Connecticut, Inc.

DISTRICT OF COLUMBIA

Washington, D. C.
Aireco Supply Inc.
Melchior, Armstrong, Dessau Co.
Refrigeration Supply Co., Inc.
Henry M. Sweeny Co., Inc.

DELAWARE

Wilmington
Greenberg Supply Company
United Refrigeration, Inc.
Wilmington Plbg. Supply Co., Inc.

FLORIDA

Daytona
R & R Supply Company
Ft. Lauderdale
Graves Broward Co., Inc.
O'Brian Associates Broward Div.
Gainesville
Baker Brothers, Inc.
Jacksonville
Baker Brothers, Inc. (2)
Bowen Refrig. Supplies, Inc.
Graves, Inc.
Noland Co., Inc.
Lakeland
Graves Bros. Refrig. Supplies
Miami
Ace Refrig. Supplies, Inc.
Berner-Pease Co., Inc.
Bowen Refrig. Supplies, Inc.
Graves Refrigeration Co., Inc.
O'Brian Associates
Orlando
Baker Bros. Inc. of Orlando
R & R Supply Company, Inc.
Panama City
Remsco Incorporated
Pensacola
Cooling & Heating Supplies
Sarasota
Graves Bros. Refrig. Supplies, Inc.
St. Petersburg
Mote W. Baird & Son, Inc.
Graves Bros. Refrig. Supplies, Inc.
Tallahassee
Baker Bros. Inc. of Tallahassee
Tampa
Leo S. Bosarge Co. of Tampa
Bowen Refrig. Supplies, Inc.
Graves Bros. Refrig. Supplies, Inc.
Noland Company Inc.
West Palm Beach
Ace Refrig. Supplies, Inc.
Motor Parts & Equipment, Inc.
O'Brian Associates

GEORGIA

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Atlanta
The Harry Alter Company
Leo S. Bosarge Company
Bowen Refrig. Supplies, Inc.
Henry V. Dick & Co., Inc.
Graves Refrigeration, Inc.
Augusta
Graves Supply Co. of Augusta
Brunswick
Baker Brothers, Inc.
Columbus
Graves Supply Corporation
Grubbs Service Supply Co.
Hajoca Corporation
Macon
Graves Supply Co. of Macon
Savannah
Baker Brothers, Inc.
Coastal Supply Company
Valdosta
Baker Bros. Inc. of Tallahassee

HAWAII

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J. W. Podmore & Sons Ltd.
Refrig. Service & Supply Co., Ltd.

IDAHO

Boise
Commercial Distributing Co.
Refrig. Dist. Corp.
Refrigerative Supply, Inc.

ILLINOIS

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Alton N. O. Nelson Company
Bloomington
Polar Supply Corporation
United States Electric Company
Chicago
Airo Supply Company Inc.
The Harry Alter Company (2)
Chase Supply Co., Inc. (4)
James B. Clow & Sons, Inc.
A. Gatz Supply Company
Fred C. Kramer Company
M. & L. Appliance Parts Supplies
Refrig. Supply Jobbers, Inc.
Decatur
Potter Supply Company
East St. Louis
Illinois Electric Works, Inc.
N. O. Nelson Company
Forest Park
The Harry Alter Company
Marion
Illinois Electric Works, Inc.
N. O. Nelson Co. of Marion
Melrose Park
Service Parts Company
Peoria
Marquette Equipment Company
Polar Supply Corporation
Quincy
Polar Supply Corporation
Rockford
Gustave A. Larson Company
Park Distributors, Inc.
Springfield
United Electric Company
Urbana
Rogers Refrig. Supply Company

INDIANA

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Fort Wayne
Central Supply Co.
F. H. Langsenkamp Company
Gary
Chase Supply Company
Indianapolis
Duncan Supply Co., Inc.
F. H. Langsenkamp Company (2)
Square Deal Supply Company
Lafayette
General Refrig. Supply Co., Inc.
Muncie
Duncan Supply Co., Inc.
South Bend
F. H. Langsenkamp Company
Valley Equipment Co., Inc.
Terre Haute
Budlock Refrig. Supply Co., Inc.

IOWA

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Cedar Rapids
Thermal Company Inc.
Davenport
Republic Refrig. Wholesalers
White Refrig. Supply, Inc.
Des Moines
Dennis Supply Company
Tesdell Refrigeration Supply
Thermal Company, Inc.
White Refrig. Supply Co., Inc.
Dubuque
Gustave A. Larson Company
Sioux City
Dennis Refrig. Supply Company
National Refrig. Parts Company
Waterloo
Winterbottom Supply Company

KANSAS

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Refrig. Equipment Co., Inc.
Wichita
Howard Supply Company
Refrig. Equipment Co., Inc.
Superior Supply Company

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Frankfort
Frankfort United Service, Inc.
Harlan
United Service Co., Inc.
Lexington
Brock-McVey Refrig. Supply Co.
United Service Co., Inc.
London
United Automotive Service, Inc.
Louisville
S.W.H. Supply Co., Inc.
Williams & Company, Inc.
Mt. Sterling
Mt. Sterling United Service, Inc.
Paducah
Budlock Refrig. Supply Co., Inc.
N. O. Nelson Company
Richmond
United Auto Parts
Somerset
United Automotive Service Inc.

LOUISIANA

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Atlas Refrig. Supplies, Inc.
Lafayette
Cooling & Heating Wholesalers
Solar Supply Co. of Lafayette, Inc.
Standard Brass & Mfg. Company
Lake Charles
Solar Supply, Inc.
Solar Supply of Lake Charles, Inc.
Monroe
Thermal Supply of Monroe, Inc.
New Orleans
Acme Refrig. Supplies, Inc.
Budlock Refrig. Supply Co., Inc.
Enoch Sales Co., Inc.
Mechanical Supply Company
Nola Sales Company Inc.
Solar Supply of New Orleans, Inc.
Standard Brass & Mfg. Company
Shreveport
Interstate Elec. Co. of Shreveport
Standard Brass & Mfg. Company
Thermal Supply of
Shreveport, Inc.

MAINE

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J. Simons Company
Supply Distributors Corporation

MARYLAND

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Crown Refrig. Supply Company
Hajoca Corporation
Kleinman Brothers, Inc.
Melchior, Armstrong, Dessau Co.
Roche & Hull, Inc.
Hagerstown
Roche & Hull, Inc.
Salisbury
Roche & Hull, Inc.

MASSACHUSETTS

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N. W. Day Supply Co. of Mass.
Melchior, Armstrong, Dessau Co.
Supply Distributors Corporation
Springfield
C. P. Payson Company Inc.
Worcester
Standard Supply, Inc.

MICHIGAN

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J. George Fischer & Sons, Inc.
Detroit
Champine Refrig. Supplies (3)
Deke Jones Company
Lee Equipment Company
Riopelle Supply Company
Squire Supply Co., Inc.
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Heating & Cooling
Wholesalers, Inc.
Lifsey Distributing Company
Grand Rapids
Heating & Cooling
Wholesalers, Inc.
Midwest Refrig. Supply Company
Highland Park
J. M. Oberc, Inc.
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J. Geo. Fischer & Sons, Inc.
Kalamazoo
Heating & Cooling
Wholesalers, Inc.
Lansing
Heating & Cooling
Wholesalers, Inc.
Pontiac
Young Supply Company
Port Huron
S & W Supply Company
Saginaw
J. Geo. Fischer & Sons, Inc.
Saginaw Distributors, Inc.

MINNESOTA

Duluth
Refrigeration Wholesalers, Inc.
Thermal Company Inc.
Minneapolis
Refrig. & Industrial Supply Co.
Tempcon, Inc.
Tem-trol Corporation
Thermal Company Inc.
St. Paul
Refrigeration Supply Co., Inc.
Thermal Company Inc. (2)

MISSISSIPPI

Gulfport
Paine Supply Co., Inc.
Jackson
Mississippi Refrig. Supply Co.
Paine Refrig. Supply Company
Plumbing Wholesale Company
Meridian
Motor Supply Co., Inc.
Pascagoula
Paine Supply Company
Tupelo
Paine Supply Corp. of Tupelo

MISSOURI

Cape Girardeau
N. O. Nelson Co.
of Cape Girardeau

put his hands on, so my thought was that the next best thing would be to have some of the pieces of an actual system on hand and tell the story of what these various parts do.

Items Prompt Questions

"Almost invariably, while you are talking to a customer, something in the kit will catch his eye and he will ask a question. When a prospect asks questions, that is the best thing that can happen to a salesman, because he does not have to talk then, he can listen, and find out what interests the prospect or what is bothering him. If you do find an objection or a problem, you can straighten it out, and thus you get over a hurdle that might have blocked a sale without your ever knowing about it.

"Also, the use of the kit to explain the workings of the system makes it hard for any competitive salesman who may follow you, when he tries to describe a system by 'talking with his hands' or by pointing to an illustration in a factory brochure and saying 'this is it, it looks like this picture.'

"Many prospects have volunteered how impressed they were with the way in which I explained how the various pieces I carried in the kit functioned to create the thing we call air conditioning, and prospects put their faith in the salesman who seems to know his product."

Hughston's remarks about the difficulties in attempting to present a graphic description of how air conditioning works from a routine piece of literature does not mean that he doesn't find pictures and other types of illustrative material useful and helpful. Says he relative to this:

"The pictures and literature which I use are on the back side of the removable front of the kit. One of the pieces is the 'Comfort Guarantee' and I go into an explanation of it something like this.

" 'We engineer the job and figure the load, thus we do not have to guess. There is no rule-of-thumb measurement of the house.'

"If possible we have a load sheet when we go back to make the close, and open it up before them so they can see all the detailed figures. In most instances prospects do not understand what has taken place, but it looks complicated and it is obvious that some engineering has been done, but generally they are impressed, and are given a feeling of assurance with the Comfort Guarantee.

KIT WHICH HE MADE himself is toted around with ease by Arch Hughston as he starts on a sales call. In his auto he also carries other visual sales aids (which will be described in a later article) as he has found that the visual type material holds the prospect's attention and gets the salesman a better hearing. They also make possible a better "breakdown" story on competitive advantages.

"The colored illustration of the refrigeration cycle, which shows the refrigerant in different colors when it is in the liquid and vapor state, with shadings in the colors for the various stages through which the refrigerant passes, is helpful in presenting the explanation of the refrigeration cycle.

"Individual pictures of the various major components, such as the evaporator section, are useful when I am giving an explanation of the system, and the function of these major components."

How the 'Rig' Came Into Being

However, the exact manner in which Salesman Hughston uses the kit in his sales presentation is a story in itself, and will be presented in a later instalment. How the "rig" came into being, how it was put together and the parts that it contains is told by Hughston in the following narrative:

"The beginnings of the idea on the kit came when George Frymire and I talked about putting together a few pieces of the various parts that went into an air conditioning system, such as the Swedish steel flapper valve that goes into the compressor, sealed bangs that go on the fan motor and blower, the heating-cooling thermostat, a sample of insulation, a can of refrigerant, an expansion valve, and other items.

"Our thinking was that since we couldn't lug around an entire system or even a compres-

(Continued on next page)

Jefferson City
N. O. Nelson Co. of Jefferson City
Joplin
Joplin Supply Company
Kansas City
Forslund Pump & Mach. Corp.
Refrigeration Equipment Co.
Superior Supply Company
Springfield
Hoffman Supply Company
Thermal Supply Company
St. Joseph
H. Ehrlich & Sons Mfg. Co., Inc.
St. Louis
Authorized Refrig. Parts Co.
Mechanical Supply Co., Inc.
N. O. Nelson Administration Co.
Refrigeration Supplies, Inc.
R. E. Thompson Company (2)

MONTANA

Billings
Temperature Supply Company
Great Falls
Temperature Supply Company

NEBRASKA

Lincoln
Wickham Supply Co., Inc.
Omaha
Dennis Supply Co., Inc.
John Klich Refrig. Supply
Ruegg Supply Co., Inc.
White Refrig. Supply, Inc.

NEVADA

Las Vegas
L. B. Marsh Allied Refrigeration
Refrig. Supplies Distributor
Reno
Acme Supply Co., Inc.

NEW HAMPSHIRE

Manchester
Cobe & Foster Inc.

NEW JERSEY

Atlantic City
Atlantic City Auto Supply Co., Inc.
Avon-by-the-sea
Wallwork Bros.
Bridgeton
Hajoca Corporation
Camden
Fleck Bros. Co., Inc.
Hajoca Corporation
United Refrigeration, Inc.
Elizabeth
Abe Gruber & Co., Inc.
Hillside
Jay Levins, Inc.
Newark
Melchior, Armstrong, Dessau Co., Inc.
Tesco Distributors
Wallwork Bros.
New Brunswick
Tesco Distributors
Ocean Grove
Tesco Distributors
Passaic
M. Blazer and Son
Paterson
White & Shauger, Inc.
Ridgefield
Melchior, Armstrong, Dessau Co.
Trenton
Allied Elec. Appliance Parts, Inc.
Jaegers Sales & Supplies

NEW MEXICO

Albuquerque
Airco Supply Company
M & M Refrig. Supply
Yucca Wholesalers, Inc.

NEW YORK

Albany
Albany Garage, Inc.
R. D. Marshall & Co., Inc.
Binghampton
Meier Supply Company
Bronx
Peter Blasco Company
Schwartz Supply Company
Brooklyn
The Capson Company, Inc.
Coleman Electric Supply Co.
Excel Refrig. Supplies, Inc.
Halsey Supply Company
Melchior, Armstrong, Dessau Co.
Buffalo
Jordan Supply Company, Inc.
Melchior, Armstrong, Dessau Co., Inc.
Root, Neal and Company
Elmira
Brady Supply Corporation
Hicksville
Abco Refrig. Supply Company
Jamaica
Wholesale Distributors, Inc.
Kingston
Orange County Plbg. Supply Co.
Long Island City
Air Cond. Supply Co., Inc.
Middletown
Orange County Plbg. Supply Co.
Mount Vernon
Eastern Supply Company
Newburgh
Orange County Plbg. Supply Co.
New Hyde Park
The Capson Company, Inc.
New York
Abco Refrigeration Supply Co.
Aetna Supply Company
The Harry Alter Company
Albert Hofeld, Inc.
Melchior, Armstrong, Dessau Co.
Paramount Elec. Supply Co., Inc.
Reese & Long Refrig. Prod., Inc.
Wholesale Distributors Inc.
Port Jervis
Orange County Plbg. Supply Co.
Poughkeepsie
Swift Parts Supply
Rochester
Genesee Refrig. Supplies, Inc.
Nohle Refrigeration Supplies
Ontario Metal Supply, Inc.
Pfaudlers Refrig. Parts, Inc.
Syracuse
Empire Refrig. Supply Co., Inc.
Genesee Refrig. Supplies, Inc.
Melchior, Armstrong, Dessau Co.
Utica
Vaeth Electric Company
White Plains
Marco Refrig. Supply Corp.

NORTH CAROLINA

Asheville
Henry V. Dick & Co., Inc.
Hajoca Corporation
Charlotte
Bowen Refrig. Supplies, Inc.
Henry V. Dick & Co., Inc.
Durham
Hasco Inc.
Fayetteville
Hasco Inc.
Goldsboro
Womack Electronics Corporation
Greensboro
Hasco Inc.
Kinston
Noland Company Inc.
Raleigh
Henry V. Dick & Co., Inc.
Noland Company Inc.
Rocky Mount
Womack Radio Supply Co., Inc.
Wilmington
Henry V. Dick & Co., Inc.
Wilson
Noland Company, Inc.
Winston-Salem
Henry V. Dick & Co., Inc.
Hasco, Inc.

NORTH DAKOTA

Fargo
Refrigeration Supply Co., Inc.
Minot
Reeves Refrig. Heating Supply Co.

OHIO

Akron
Davey Sales Company
Refrigeration Supplies, Inc.
Canton
Refrig. Economics Co., Inc.
Cincinnati
Mason Supply Company
Mutual Mfg. & Supply Company
Radio, TV & Refrig. Supply, Inc.
Williams & Company, Inc.
Cleveland
Cleveland Hermetic & Supply, Inc.
Debes Refrigeration Supply Co.
Refrigeration Supplies, Inc.
Williams & Company
Columbus
Mason Supply Company
Williams & Company
Dayton
Allied Supply Co., Inc.
W. H. Kiefaber Company
Hamilton
Allied Supply Co., Inc.
Lima
Allied Supply Co., Inc.
Portsmouth
King & Irwin, Inc.
Springfield
Allied Supply Co.
Toledo
Heat & Power Engineering Co.
Williams & Company, Inc.
Youngstown
Refrigeration Supplies, Inc.

OKLAHOMA

Lawton
Jones-Newby Supply Co. of Okla. City
Muskogee
Jones-Newby Supply Co. of Tulsa, Inc.
Oklahoma City
Jones-Newby Supply Co. of Okla. City
Waugh Brothers Supply Co.
Tulsa
Jones-Newby Supply Co. of Tulsa Inc.
Palmer Supply Company
Waugh Bros. Supply Co., Inc.

OREGON

Eugene
Peerless Pacific Company
Refrigerative Supply, Inc.
Portland
Johnstone Supply Company
Pacific Appliance Parts
Peerless Pacific Co., Refrig. Div.
Refrig. & Power Specialties Co.
Refrigerative Supply, Inc.

PENNSYLVANIA

Allentown
Larson Supply Company
Altoona
Allen Supply Company
Ardmore
Hajoca Corporation
Bethlehem
Hajoca Corporation
Erie
Erie Refrigeration Supplies
Greensburg
Eastern Refrigeration Supply Co.
Harrisburg
The Bodwell Company, Inc.
Resco, Inc.
Philadelphia
Acar Supply Company
Allied Elec. Appliance Parts, Inc. (2)
M & E Refrig. Accessories Co.
Melchior, Armstrong, Dessau Co.
United Refrigeration, Inc. (2)
Victor Sales & Supply Co., Inc.
Pittsburgh
William M. Orr Co., Inc.
Pa. Industrial Supplies Company
Proie Brothers, Inc.
Williams & Company
Reading
Hajoca Corporation
Larson Supply Company
Scranton
Central Service Supply
Warminster
Allied Elec. Appliance Parts, Inc.
Wilkes-Barre
General Radio & Electronic Co.
Radio Service Company
Williamsport
General Radio & Electronic Co.

RHODE ISLAND

Providence
A. E. Borden Company
R. I. Refrig. Supply Co., Inc.

SOUTH CAROLINA

Charleston
Baker Brothers, Inc.
Noland Company, Inc.
Roberts Refrig. Supply Company
Columbia
Henry V. Dick & Co., Inc.
Noland Company, Inc.
Florence
Henry V. Dick & Co., Inc.
Greenville
Henry V. Dick & Co., Inc.
Graves Refrigeration, Inc.
Spartanburg
Noland Company, Inc.

SOUTH DAKOTA

Aberdeen
Tem-trol Corporation
Sioux Falls
Thermal Company, Inc.

TENNESSEE

Chattanooga
Noland Company, Inc.
Pegiars, Inc.
Jackson
Southern Supply Company
Johnson City
Refrigeration Equipment Co.
Kingsport
Refrigeration Equipment Co.
Knoxville
Knoxville Refrig. Supply Co.
Leinart Engineering Company
Memphis
Budlock Refrig. Supply Company
N. O. Nelson Company
United Refrig. Supply Company
Nashville
Ed's Supply Company, Inc.
The Starr Company
J. B. Thomas Company, Inc.

TEXAS

Abilene
Refrig. Supply & Electric Co.
Amarillo
Jones-Newby of Texas, Inc.
Waugh Brothers Supply Co.
Austin
Hub Supply Company, Inc.
Milstead Company
Thermal Supply of Austin, Inc.
Beaumont
Johnson Supply
Solar Supply of Beaumont, Inc.
Standard Brass & Mfg. Company
Thermal Supply of Beaumont, Inc.
Corpus Christi
Airtrol Supply Inc.
International, Inc.
Thermal Supply of Corpus Christi, Inc.
Dallas
The Harry Alter Company, Inc.
Barbeck Refrig. Supply Co.
Climate Supply Company
Electrical Supply Corporation
The Electromotive Corporation
Snell Refrigeration Supply
El Paso
M & M Refrigeration Supply
Fort Worth
Koldaire Supply Co., Inc.
Tersco, Incorporated
Galveston
Thermal Supply of Galveston, Inc.
Harlingen
Hoctor Supply, Inc.
International, Incorporated
Thermal Supply of Harlingen, Inc.
Houston
Bowen Refrig. Supplies, Inc.
Johnson Supply
Lingo Company, Inc.
Standard Brass & Mfg. Company
Thermal Supply, Inc.
Thermal Supply of Houston, Inc.
Longview
Barbeck Refrig. Supply Co., Inc.
Lubbock
Tersco, Incorporated
Waugh Bros. Supply Co., Inc.
McAllen
Thermal Supply of McAllen, Inc.
Midland
Midosa Supply Company, Inc.
Odessa
Tersco, Incorporated
Port Arthur
Standard Brass & Mfg. Company
San Angelo
Central Electric Company
San Antonio
International, Inc.
Service Supply San Antonio Div.
Thermal Supply of San Antonio, Inc.
Westbrook Company
Sherman
Electrical Supply Corporation
Texarkana
Thermal Supply of Texarkana, Inc.
Tyler
Climate Supply Company
Victoria
Service Supply of Victoria, Inc.
Thermal Supply of Victoria, Inc.
Waco
Hub Supply Company, Inc.
Tersco, Incorporated
Wichita Falls
Barbeck Refrig. Supply Company

UTAH

Salt Lake City
Commercial Distributing Co.
Johnstone Supply Company
Pacific Metals Co., Ltd.
Refrigeration Distributors Corp.

VERMONT

Burlington
Blodgett Supply Company, Inc.

VIRGINIA

Bristol
Refrigeration Equipment Co.
Southern Refrigeration Corp.
Charlottesville
Refrigeration Supply Co.
Danville
Womack Radio Supply Co., Inc.
Hampton
Peninsula Refrig. Suppliers, Inc.
Lynchburg
Southern Refrigeration Corp.
Newport News
Noland Company, Inc.
Norfolk
Hajoca Corporation
Noland Company, Inc.
Refrigeration Suppliers, Inc.
Richmond
Air Conditioning Suppliers, Inc.
Hajoca Corporation
Refrigeration Supply Company
Roanoke
Noland Company, Inc.
Southern Refrigeration Corp.

WASHINGTON

Seattle
Refrig. & Power Specialties Co.
Refrigeration Wholesalers, Inc.
Refrigerative Supply, Inc.
Thermal Supply Co., Inc.
Spokane
Refrigerative Supply, Inc.
Wakefield Supply Company
Tacoma
Refrig. & Power Specialties Co.
Yakima
Thermal Supply Company

WEST VIRGINIA

Charleston
Amick & Miller, Inc.
Hiner Refrigeration Supply Co.
Mason Supply Company
Huntington
King & Irwin
Mechanical Refrig. Supply, Inc.
Wheeling
Mason Supply Company

WISCONSIN

Eau Claire
Gustave A. Larson Company
Green Bay
Gustave A. Larson Company
Wisconsin Refrig. Supply Co.
Kenosha
Gustave A. Larson Company
LaCrosse
W. A. Roosevelt Company
Madison
Automatic Temperature Supplies, Inc.
BTU Equipment & Supply Corp.
Gustave A. Larson Company
Milwaukee
Gustave A. Larson Company
Refrigeration Parts Co., Inc.
Thermal Company, Inc.
Vincent Refrig. & Heating Supply
Wisconsin Refrigeration Supply Co.
Oshkosh
Gustave A. Larson Company
Wausau
Gustave A. Larson Company

Form No. 1761-1-60-5C

REMCOR Model CB-2A

WATER COOLER
5 Gallon Bottle Type
$89.50*
*TO DEALERS ONLY
. . . economical . . . efficient . . . streamlined . . . space-saving . . . ½ H.P. Tecumseh hermetic unit . . . five year warranty on refrigeration cycle . . .
Remcor Products Co.
321 E. Grand Avenue, Chicago 11, Illinois
manufacturers of water coolers since 1940
also available:
pressure type coolers * $139.50
bottle type coolers (with refrigerated storage compartment)

KIT PLAYS an important role in selling the competitive advantage of the product which Hughston is trying to get prospect to buy, as well as informing prospects on how air conditioning is produced, and impressing them with the salesman's knowledge of the subject. Hughston can weave a story around each item in the kit and says that "I'm always trying to close the sale, and I make the first closing pitch as early as possible.

* * *

'Parts and Pieces'--

(Continued from preceding page)

sor, that we could put these things into a brief case and be able to better describe the parts of a system and point out the features. We also found that it helps in closing a sale, as I will explain later.

"Later, I got some ideas about putting a more organized kit together, and since I would have difficulty in getting someone else to do it, I decided to put it together myself.

"On a job site I happened to see a one-by-four on the ground, so I picked it up and had the contractor cut it into pieces to make a shell for the box. From a lumber yard I got some pegboard for the sides. Then at our own shop I put it together.

Parts Came from Many Sources

"From a parts supplier I got an expansion valve, a sight glass, a cutaway strainer-drier assembly, and some capillary tubing. From a McQuay representative I was able to obtain a small sample cooling coil. Most of the rest of the pieces came out of our shop.

"On one end of a piece of scrap pipe approximately 18 in. long, I slid one type of insulation, on the other end I wrapped another type of pipe insulation. During a visit to the Carrier plant in Syracuse I picked up some small lengths of air fan coil that had been cut off and were headed for the scrap pile. Our own stockroom provided the heating-cooling thermostat.

"One of the men in our shop shaped up a piece of metal onto which I stuck several pieces of insulation. First of all, I put on a piece of ¼-in. insulation to show what was the minimum that some of our competitors use. Next I stuck on a piece of 1-in. plain insulation and beside a piece of 1-in. foil, alongside that a piece of 2-in. foil, and finally a piece of acoustical liner 1 in. thick.

"On the bottom ledge of the pegboard interior side of the kit was placed some of the rubber corrugated material that we set down under furnaces to cut down vibration and noise transfer, and a piece of vibration isolation material which we set under the condensing unit.

"Then I had the shop make up a piece of 3-in. round duct and got a damper quadrant and made a damper to fit this and hung it on the pegboard. The shop made up a silent duct connection which is an asbestos canvas connection about 4 in. square, and attached that to the back of the kit.

"I got hold of a one-pound can of 'Freon-12' and made a small coil for it, and attached a valve to the can. I call this my $1.95 air conditioning system.

"When people talk to me about a cheaper price, I tell them that I can offer them an air conditioning system at a cheaper price than any bid they might have—no matter how low it may be. I pull out the can of refrigerant with the coil attached and say 'here is an air conditioning system that cost $1.95.'

"Then I go into an explanation of why they do not want to buy cheap, and point out the $1.95 system would eat up a lot of gas on a hot day, and the cost of operation would be quite expensive. And it gives me a chance to tell the story of how a cheap system can cost more to operate and be expensive to maintain."

* * *

(This is the first instalment of an article on Arch Hughston, and the unusual "kit" which has helped him to become one of the nation's leading salesmen of central residential air conditioning systems. Subsequent instalments will explain how Hughston uses this kit when he makes a presentation to a prospect, and will also describe some other methods which he has found effective.)

Complaints

Company Schools Provide Servicemen with Ways To Handle Customer Relations Phase of Calls

By Frank J. Versagi

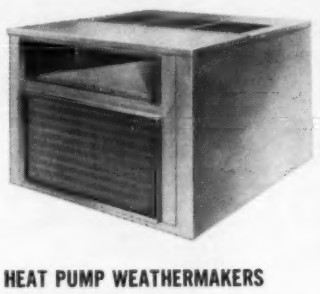
DETROIT — A customer has called in with a noise complaint on a new refrigerator or air conditioner. You determine that the sound level of the unit is normal. How do you handle the customer's complaint?

"I turn the unit off and point out other noises in the house which are louder and to which the customer has become accustomed."

"If the item is almost out of warranty I frighten the prospect with an $80 charge for a compressor change."

"I tell the customer that the unit is still in warranty for another six months and that sometimes units have to run-in and settle down. That she can call us in four or five months if the noise hasn't stopped. Actually what happens is that in this time, the customer becomes accustomed to what is a normal sound for the unit and she no longer complains."

These are some of the ideas offered by students at Customer Relations Schools held at several companies and attended by the NEWS. A frequent technique use in such schools is to offer typical customer relation problems to the students, and to let them discuss their reactions and ideas before giving the answer which the company recommends or at least which the company



HEAT PUMP WEATHERMAKERS

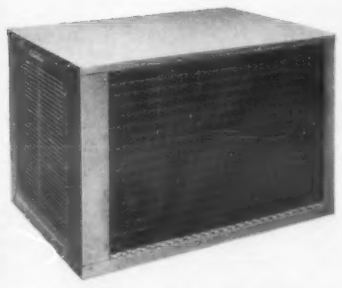
There's one for every home, every business. The residential line spans the field from a ½-ton Portable for a room to a 4.7-ton two-piece model for a mansion. The commercial line ranges in capacity from 7 to 30 tons, with components to tailor-make a system for the largest installation.

CARRIER ROOM AIR CONDITIONERS

The Royal Family of Air Conditioning, with power models for the largest rooms . . . prestige models for the finest homes . . . promotion models for price-conscious buyers. Twenty-two models, from the ½-hp "carry home" Portable to superpowered 2½-hp Imperial provide a model for every prospect on your list.

NEW CARRIER AIR PURIFIER

Latest product of Carrier research, this sensational new Air Purifier is a major advance in the techniques of air purification, cleaning, odor removal and humidity control. Easily attached to a forced air furnace —or air conditioning system. Self-cleaning filter. The newest exclusive for Carrier dealers.

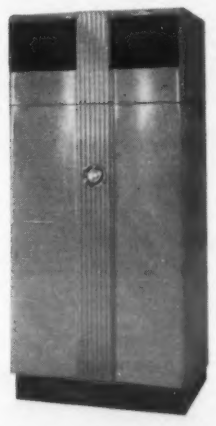


OUTDOOR REFRIGERATION UNITS

These versatile air-cooled units can be combined with various indoor cooling coil sections to provide summer air conditioning in new and existing homes, stores and offices. They can be installed almost anywhere—on rooftop, in yard or breezeway. Capacities: 1.8 to 10.7 tons.

CARRIER CLIMATE CENTER

Another Carrier first. Dramatic Climate Center enables the homeowner to tell the weather at a glance, "dial" the climate he wants in his home, also make sure his air conditioning system is operating efficiently. All this from an 8 x 14" satin aluminum panel that installs easily between the studs in any room.



COMMERCIAL WEATHERMAKERS

Used singly or as part of a multiple unit air conditioning system, these self-contained units can serve a room, a floor, two floors or an entire building. Can be installed with or without ductwork, built into the wall or located completely in the air conditioned space. Three to 30 tons.

found successful in handling the complaints.

That the human factor is often more the problem than the product is exemplified by the subjective reaction to new sounds from products. (Companies are attempting to get all personnel to use the term "sound level" rather than "noise" because of the unpleasant connotation of the latter word.) The human factor enters the picture when the serviceman must decide which technique will work on the specific customer he is facing.

For example, the comparison of the product's sound level with existing sounds in the home backfired on one man who showed the lady that her kitchen clock was making more noise than her refrigerator. "I paid $6.95 for that clock; your refrigerator cost me $500. I'd like to assume it is better made than the clock."

Sound May Have Hidden Meaning to Customer

Instructors emphasize that many times the actual cause of the complaint is not the sound level or noise but what the sound represents in the customer's mind. "One woman, for example, didn't mind the new sound as noise, but the clicking she heard when the refrigerator turned on suggested to her that the parts were wearing out. When the starting operation was explained to her, the complaint was settled."

One teacher cited an unusual noise problem from his own experience: A store operator was complaining about a noise coming from one of his self-contained cases. Two or three service calls had failed to solve the problems, and a service supervisor went out. He asked the owner to stand by and indicate when the noise of which he was complaining was altered in any way, and he set about touching and holding various components. Just as he touched the discharge line, the owner called out, "That's it, you've stopped it!"

A bit more investigation revealed that there was a high pitched sound all but inaudible to everyone but the owner. The problem was solved by adding some weight to the line and changing the frequency of its vibration to a level which did not disturb the owner.

Dealers are instructed that it is to their advantage to get the customer's reactions on the entire product; this means getting her to tell about the satisfaction she is getting as well as the complaint she has. "On an in-warranty call, where it is obvious that nothing is wrong with the unit, at least put a watt-meter on or perform some actions to indicate to the customer that you are interested in the complaint and that you have determined by more than your opinion that nothing is amiss."

But don't go to the extreme, on a noise complaint for example, of taping lines, wedging parts as if to reduce sound, since you may be asking for later trouble, is the consensus.

A frequent complaint is that a component which has failed just out of warranty "was bad for a long while, right from the start." Manufacturers recommend that here the serviceman explain sympathetically how the warranty program works, that had the customer called in warranty, the part would have been replaced, and the present replacement will now be warranted for such and such a time.

On a complaint of excessive operating cost, take the maximum wattage rating off the name plate, or better, take an actual wattmeter reading and show by calculation from utility rate what the maximum cost would be if the unit were operating 24 hours a day. Explain that many times the comparison of the new larger model, is made with a former very small model which did not perform the service of the present unit.

"Odor complaints can never be explained away. The odors exist," warn instructors. "So find the source, whether it's in the unit or in the housekeeping. If something other than the unit is found to be the source of odors, be delicate in indicating what corrective measures are needed."

In addition to encouraging discussion of such specifics as noise, odors, operating costs, companies present some generalized information as guides to better service and better customer relations. Some examples:

Everytime you are out on a service call, the customer is unhappy. Remember this and resell the product while you are there. The customer can't help but wonder about future service, about his judgment in buying your product over another.

Follow up the service call, not in person, but by a call or letter. This lets the customer know you are interested in his being satisfied.

Several companies have issued manuals on customer relations. The typical manual emphasizes the need to have someone knowledgeable answering the telephone on service calls. It touches on:

1. building goodwill through first impressions,

2. opening and closing telephone conversations,

3. the use of record cards to speed handling on service calls,

4. the technique of asking customers to pay for out-of-warranty service calls,

5. how to eliminate unnecessary service calls.

A key tool in proper handling of telephone calls is an index which allows the call clerk to ask specific questions about air conditioners, washers, heaters, furnaces, and other products when the customer is first on the phone.

Among the functions these questions perform:

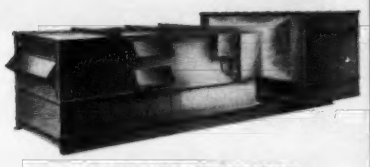
They help determine if a service call is needed at all; frequently a simple thing like moving the drapes can make a service trip unnecessary.

They enable the service shop to determine priority of the complaint.

They enable the service shop to determine which parts may be needed on the call.

Of great interest to all service contractors is the study conducted by a major manufacturer of complaints which reached the factory after being improperly handled for some reason at the dealer level. From its findings, the company prepared a table on ways the factory complaints could have been avoided.

Major factors on the chart were the lack of prompt service; the unavailability of parts to do the repair job; the lack of a thorough diagnosis; the lack of interest shown in the customer; the attempt to impose unjustified charges; the lack of a product demonstration and of proper inspection of the product upon delivery.



ON-THE-ROOF WEATHERMAKERS

Latest advance for heating and cooling one-story buildings, this new Carrier unit installs on the roof, occupies no valuable floor space whatsoever, uses only a minimum of ductwork and permits uncluttered ceilings. A big seller commercially. Capacities: 7.5 and 10 tons for cooling; 200,000 and 250,000 Btu for heating.

ONLY A CARRIER DEALER HAS EVERYTHING

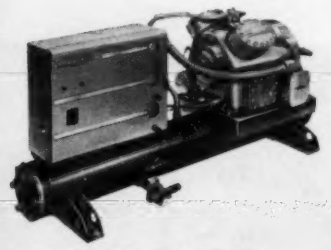
for heating and air conditioning!

That's a strong statement, but it's fact. Only a Carrier dealer has everything to meet the needs of every commercial and residential customer. Just look at the scope of the heating and air conditioning lines shown here!

And that's not all. Each Carrier line leads its field with the latest technical developments. A Carrier dealer not only has the largest selection of products to sell, but also a steady flow of new products.

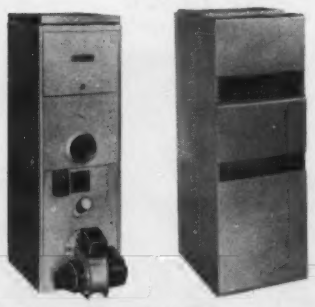
More? More! Carrier backs its dealers with everything to help business boom—for example, engineering help on the difficult jobs, continuous training in modern techniques, special credit on inventory, liberal financing plans, promotional help—many more!

Want the complete story on the most valued franchise in the industry? Call the Carrier distributor in the Yellow Pages. Or write Carrier Corporation, Syracuse, N.Y.



CARRIER APPLIED SYSTEMS

Carrier is the first to offer a complete line of hermetic condensing units up to 120 tons capacity for both air conditioning and refrigeration service. Also available for applied jobs are complete lines of compressors, evaporative and air cooled condensers and other components. A dealer can handle any applied job with Carrier.



OIL AND GAS FURNACES

Brand new design ideas, new components and new standards of performance are built into these new lines of gas-and-oil-fired Winter Weathermakers*. Each has features that make the addition of summer cooling easy and inexpensive. Four models: Upflow primarily for vertical discharge into ductwork; Downflow for homes with concrete slab or crawl-space foundation; Horizontal for homes with basements; Lowboy for basements where headroom is at a premium. Gas-fired bonnet capacities: 60,000 to 160,000 Btu. Oil-fired: 84,000 to 185,000 Btu.

* Reg. U.S. Pat. Off.

BETTER AIR CONDITIONING FOR EVERYBODY EVERYWHERE

Carrier

Flexibility Was Chief Factor

Older Building Turns To Air-Cooled Packaged Air Conditioners In Modernization Move

MILWAUKEE—Flexibility of installation of air-cooled packaged air conditioning equipment to meet the variety of needs in a 35-year-old office building is well illustrated in the Century building in downtown Milwaukee.

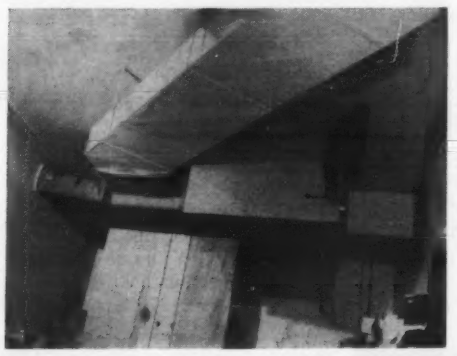
The structure boasts a convenient location, good design, excellent construction, and prestige tenants. Yet Charles Kasik, Jr., vice president of the Century Building Co. and manager of the building, felt the need to modernize his building to remain competitive with newer air conditioned structures in outlying areas.

In considering the possibilities for air conditioning the structure, Kasik rejected a central system or window units.

A central unit big enough to cool the building's 70,000 sq. ft. of upper floor office space would require extensive zone controls to avoid over-cooling the north side and cope with varying loads on the east and west exposures while controlling the maximum south wall heat load.

Further, punching holes for plumbing lines from the basement to the eighth floor roof through masses of concrete would be quite expensive.

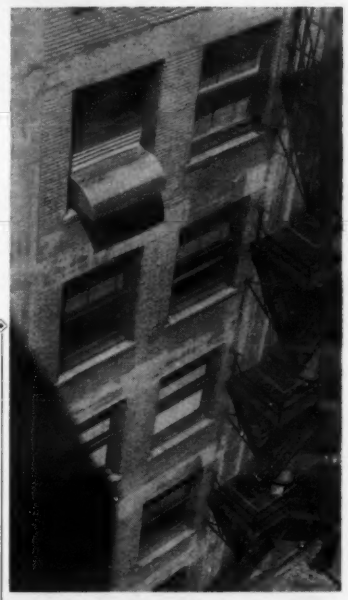
He rejected window units because they would require extensive additions to the electrical distribution system, raise the problem of condensate disposal, and adversely affect the aesthetic appearance of the building.



CEILING MOUNTED evaporator and blower package in second floor storage room saves valuable floor space. Ducts at left and top lead to air distribution system. Outdoor air enters through duct at left.

LEFT: Removable door sections are held in place by retaining strip at top, rest on simple two by four on floor. All three doors are removable. Installation requires only 20 sq. ft.

RIGHT: Opposite side of wall behind the sixth floor air conditioner contains a window adapted to admit cooling air and exhaust air heated by condensing unit. Air exhaust is fitted with hood to lessen possibility of recycling hot air through intakes above hood.



Project Had To Be Accomplished In Stages

Kasik also had to carry on his modernization program in stages and at low cost. Tenant leases expire at different times. Some tenants didn't want air conditioning and others deferred decision until finding how much it would increase their rental costs.

With these thoughts in mind, Kasik turned to air-cooled equipment to air condition four of the L-shaped structure's eight floors. Varying space needs on each floor led him to concentrate the equipment in three locations.

On the stepped-back second floor, he suspended a Typhoon evaporator and blower mounted in a single cabinet from the 12-ft. ceiling of a storage room. Compressor and air-cooled condensing unit are located a short distance away on the roof of the first floor.

Ceiling Mounted Units Free Floor Space

Ceiling mounting freed valuable floor space for storage and shortened the run between evaporator and distribution ducts. Ducts are installed above a dropped ceiling incorporating recessed lighting and acoustical treatment.

On the seventh and eighth floors, six 7½ and 10-ton Typhoon units are spotted, three to a floor and dividing each floor into three zones. These units combine evaporator, compressor, and blower. Condensing units are mounted on the roof.

Vertical rise of more than 20 ft. for refrigerant piping from units on the seventh floor does not adversely affect their performance, Kasik commented.

Some units are installed in

MEMO

TO: Ted Coon, District Manager
St. Louis Territory:

Ted:
Here's the Welbilt story that's attracting distributors all over the country.
New subsidiary, old hands, good facilities, on the move... definitely the line to watch.
A solid line - complete, guaranteed, backed by technical experts. No "fast buck" stuff...
we're here to stay.
Clean-cut marketing policy, protection for all resale groups, plenty of technical and promotional assistance... a high profit line for both dealers and distributors.
Particularly promising items illustrated.
That's the story thus far... a very solid one for my money. Glad you're with us. Will keep in touch.

Pete Dalton

WELBILT Self-Contained Air Conditioners
Commercial & Residential, 3 thru 20 Tons, Air or Water Cooled, Four Models
WELBILT Series VGF Gas-Fired Hi-Boy Furnaces
Residential & Small Commercial; 6M to 120M BTU Output.
WELBILT Heat Pump
WELBILT Prime White Baseboard Radiation Units
WELBILT Packaged Chillers
WELBILT Attic Stowaway Air Conditioners

America's newest line of high-quality Air Conditioning, Refrigerating and Heating Equipment. Illustrated Catalogs on request.

SELF-CONTAINED AIR CONDITIONERS • HEAT PUMPS • AIR AND WATER COOLED CONDENSING UNITS • WATER AND AIR COOLED PACKAGED CHILLERS • COOLING TOWERS • EVAPORATOR CONDENSERS • GAS FIRED HI-BOY FURNACES • GAS FIRED HORIZONTAL FORCED AIR FURNACES • GAS FIRED BOILER UNITS • CLOVERDALE HOT WATER BOILERS • RESIDENTIAL OIL FIRED BOILER BURNER UNITS • COMMERCIAL OIL FIRED BOILER BURNER UNITS • COUNTERFLO, SUSPENDED, HI AND LO-BOY OIL FIRED WINTER AIR CONDITIONERS • COMBINATION HEATING AND AIR CONDITIONING UNITS • UNIT HEATERS • DUCT HEATERS • RESIDENTIAL RADIATION BASEBOARD

Welbilt AIR CONDITIONING and HEATING CORP.
SUBSIDIARY OF WELBILT CORPORATION
Farmingdale, New Jersey

office areas, others in closets. Styling blends into office furniture, while top discharge ductwork blends into office decor.

Because air conditioning was added here after an acoustical ceiling and suspended fluorescent lighting were installed, ductwork was laid against the ceiling, furred in, and painted. Duct layout blends with grid of structural beams along ceiling.

Sixth floor is handled by a single 10-ton packaged unit. Because there was no storage closet to conceal the equipment, the packaged unit was located in an alcove near a window. The 20-sq. ft. alcove was then closed off with a deep soffit over three cut-down birch doors. The soffit contains the warm air return. The doors can be slid from place easily to give access to the unit.

Grilles set into the lower half of the window exhaust warm air from the condenser and admit cool air. Air exhaust through the lower half of the grille area is fitted with a hood to lessen change of recycling hot air through air intake above hood.

Distribution ducts are covered by a false ceiling.

With this system, Kasik believes, he has been able to provide air conditioning where it is wanted without losing valuable rental space. He is also in a position to install additional cooling without disrupting his present system.

Westinghouse Names 9 Famous Furnace Outlets For Heating, Cooling

PITTSBURGH — Westinghouse Electric Corp. has announced the appointment of the nine outlets of Famous Furnace Co. as distributor for Westinghouse heating and air conditioning products in West Virginia, Ohio, and Pennsylvania.

Famous Furnace was organized by Hyman Blaushild in 1935 in Cleveland as a wholesale distributor of furnaces and furnace repair parts. The company has grown from a small organization of a half dozen employes to the present organization of nine warehouses with 38 salesmen and 28 delivery trucks.

Since 1950, the company has set up warehouses for air heating equipment at Cleveland, Lorain, Steubenville, Akron, and Warren Ohio; Wheeling, W. Va.; Mansfield, Ohio; Uniontown, Pa.; and Newark, Ohio.

Gibson To Work 2 10-Hr. Shifts

GREENVILLE, Mich. — Gibson plants are going on overtime production schedules in order to meet the unprecedented demand for Gibson products, according to C. J. Gibson, Jr., president of the Gibson Refrigerator Div. of Hupp Corp.

"We have been running two eight-hour shifts for the past several months, and now must increase production to 10-hour shifts to keep pace with orders," Gibson said.

W. C. Conley, vice president in charge of Gibson sales, reported that distributor sales to dealers in January of this year were more than double January of 1959.

Bell & Gossett Names William A. Boone To Succeed Pullum

MORTON GROVE, Ill.—Appointment of William A. Boone as executive vice president and treasurer of Bell & Gossett Co. was announced by R. E. Moore, president.

W. A. Boone

Boone, formerly vice president in charge of sales, succeeds C. E. Pullum who passed away Jan. 8.

Boone joined Bell & Gossett in 1940 as a sales engineer in the heat transfer department. He was promoted to assistant sales manager in 1947, sales manager in 1955, and vice president in charge of sales in 1957.

BHC Names Plans Board Chairmen, Staff Managers for 2 Divisions

NEW YORK CITY — New plans board chairmen for both the Residential and Commercial & Industrial divisions of the national Better Heating-Cooling Council were announced by BHC Executive Director Franklin Greene.

At the same time, Greene appointed staff managers for both divisions.

BHC is a marketing-promotion arm of the hydronic heating-cooling industry.

Residential Div. plans board chairman is Robert W. Williams, general marketing manager of American-Standard. Williams is also a member of the Council's board of directors.

Commercial & Industrial Div. plans board chairman is Henry M. Gibb, who served last year as chairman of the task force in charge of organizing the Council's new C&I Div. Gibb, also a member of BHC's board of directors, is sales manager, Pacific Steel Boiler.

Douglas Grewer has been appointed manager, C&I Div. A graduate engineer who joined the BHC staff recently, he will supervise the staff operation of BHC's commercial and industrial program. Before joining BHC, Grewer was an account executive with H. W. Smith, Inc., technical public relations agency in New York.

Ray Schumack will supervise the staff operation of the residential program as manager, Residential Div. He has been a member of the staff since BHC was organized in 1956.

The plans board is the top planning group in each division of BHC. The two plans boards formulate the projects which together make up the Council's over-all hydronic industry marketing-promotion program. They also act as liaison between the task forces, which develop basic BHC programs, and the board of directors, BHC top policy group.

A separate field operations department, serving both divisions, has been set up to continue assistance to local groups in organizing and conducting local BHC hydronic promotion programs. Roy Bredholt serves on the BHC staff as director of field operations.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

In laboratories, libraries and luxury liners...

Delicate experiments in today's research laboratories often require precise control of temperatures and humidity. Air-conditioning plays an important role in modern research, protecting equipment from atmospheric variations and helping scientists work in top form.

Summer reading soars in libraries that install air-conditioning. Scholars and browsers alike escape the heat, and the books are guarded from dampness.

There's cool sailing ahead—even across the torrid Equator—when you're aboard an air-conditioned ocean liner. No wonder last year broke all existing records for tourist travel.

You'll find

genetron®

SUPER-DRY REFRIGERANTS

Approved!
Accepted!
Preferred!

Dependable performance . . . consistent high quality . . . and maximum dryness and purity have earned widespread acceptance for "Genetron" Super-Dry Refrigerants.

Leading manufacturers endorse their use as original or replacement charge in America's finest refrigeration and air-conditioning equipment. Refrigeration engineers who know this equipment best specify "Genetron" Super-Dry Refrigerants. Wholesalers everywhere recommend them and thousands of servicemen and contractors who are proud of their work and reputation use only "Genetron" Refrigerants.

"Genetron" Super-Dry Refrigerants are available from leading wholesalers coast to coast. Be sure—use the best. Insist on "Genetron" Super-Dry Refrigerants.

genetron 11 ORANGE LABEL CCl_3F
TRICHLOROMONOFLUOROMETHANE

genetron 12 WHITE LABEL CCl_2F_2
DICHLORODIFLUOROMETHANE

genetron 22 GREEN LABEL $CHClF_2$
MONOCHLORODIFLUOROMETHANE

genetron 113 PURPLE LABEL $C_2Cl_3F_3$
TRICHLOROTRIFLUOROETHANE

genetron 114a BLUE LABEL $C_2Cl_2F_4$
DICHLOROTETRAFLUOROETHANE

GENERAL CHEMICAL DIVISION
40 Rector Street, New York 6, N. Y.

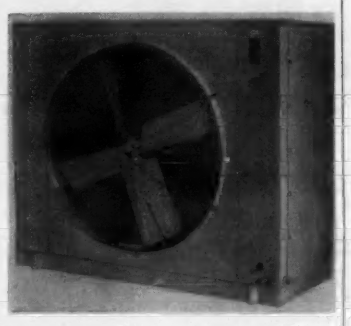
Allied Chemical

Tuck-Aire Offers 3 Air-Cooled Units

● Three new remote air-cooled condensing units are now available from the Tuck-Aire Furnace Co., Dept. AH&RN, 2045 Evans Ave., San Francisco 24.

The company said models 61-RCD and 63-RCD feature a full 5-ton capacity using a 6½-hp. compressor; model 83-RCD-1 has a full 7½-ton capacity using an 8¾-hp. compressor. All three units are particularly recommended for commercial or large residential applications requiring year-round cooling on demand, regardless of outside temperatures, according to Tuck-Aire.

"A special feature of these units is their flexible design that permits them to be located either inside or outside a building," it was stated. "They can be remoted to distances of 85 ft. from the cooling coil, and can be coupled to coils of matching evaporators employing upflow, counterflow, or horizontal air flow."



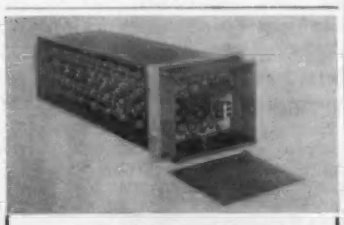
Bows 17-Ton Air-Cooled Condensing Unit

● Refrigerant sub-cooling is featured in a new nominal 17-ton air-cooled condensing unit unveiled by Lennox Industries, Inc., Dept. AH&RN, 200 S. 12th Ave., Marshalltown, Iowa.

A new refrigerant circuiting method is said to improve B.t.u. per watt performance because liquid refrigerant reaches the evaporator coil up to 20° F. cooler than the condensing temperature.

"Large condenser coil (28.3 sq. ft.) has ripple-edged aluminum fins flat-bonded to the copper tubes by an exclusive Lennox process," the announcement stated. "Compressor is semi-hermetic and easily serviced in the field. It is resiliently mounted, suction-cooled, and overload protected. It has accessible gauge ports."

Air movement is straight through the unit which is only 50 in. thick, including the fan guard, the company noted. Air mover is a 4-ft. diameter Lennox "Power Prop," which is claimed to deliver a large volume of air at low power costs.



● 4 Models In Electric Duct Heater Line

HEAT CONTROLLER, INC.
Jackson, Michigan

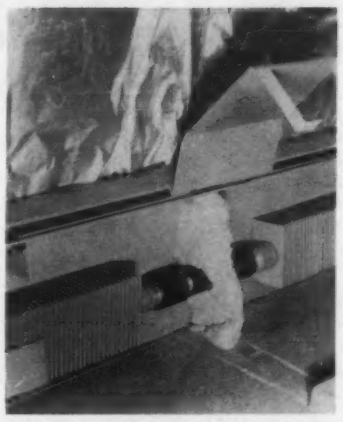
Partition Piece Cuts Baseboard System Cost

● A partition piece which "permits the installation of full perimeter baseboard systems immediately after the rough flooring is put in and before the partitions are put up or even marked" has been introduced by Slant/Fin Radiator Corp., Dept. AH&RN, 130-15 89th Rd., Richmond Hill 18, N. Y.

The company claims this has resulted in a savings of over 20% of the time normally allocated for this operation. Slant/Fin's partition piece, it was stated, "not only allows the steam fitter to work in a large unencumbered space but he does so without interference or delays caused by other trades.

"The partition piece is equipped with an angle iron lath support and sturdy braces to maintain ⅛-in. clearance and permit full operation of the damper. The lath support allows for the finish plaster to be brought flush to the partition piece, and makes for an excellent finished job.

"The sound deadener, of die-cut fiberglass, fits over the pipe and fills in the full space between the pipe and the enclosure. In addition to its function as a sound deadener, this fiberglass material acts as a fire stop between rooms."



PARTITION PIECE is piano hinged across entire width.

Coils Claim Greater Capacity Per Unit Volume

● Development of a new line of cooling coils said to have greater capacity per unit volume than its previous coils has been announced by The Trane Co., Dept. AH&RN, La Crosse, Wis.

Trane has also developed a new method of cooling coil selection which it says is more accurate, yet more simple to use.

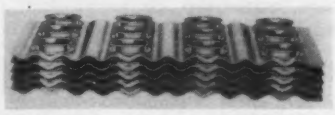
"The cooling coils feature a newly-developed fin configuration called 'Sigma-Flo' which increases heat transfer efficiency, a new casing design which reduces overall coil dimensions, eliminate air by-pass and minimizes moisture carry-over on the dehumidifying coil, and new streamlined cast iron headers," the firm said.

The new coils are available in several models, including standard water coils, cleanable and drainable water coils, and direct expansion cooling coils.

Regarding the new Sigma-Flo fin, Trane said: "A configuration of sigmoid or S-shaped contours is die-formed in the metal fin. The S-shaped pattern is continuous over the entire fin surface. It continues uninterrupted even between tubes of the coil. Trailing edges are purposely flattened, however, to tranquilize the leaving air pattern.

"The function of the Sigma-Flo pattern is to improve turbulence in the air flow as it makes contact with the heat transferring surfaces of the coil."

More details on the products described on these pages may be obtained by writing the manufacturer at the address given in each story.



WAVY pattern of Sigma-Flo fin provides more turbulence through coil than conventional plate-type fins.

Mr. Donald P. Green, mechanical contractor for Detroit's new Roostertail Restaurant, says:

"Honeywell came through answer to

Mr. Frank Lynch of the Roostertail and Mr. Donald P. Green (right), the mechanical contractor for Detroit's luxurious Roostertail Restaurant, discussing the Honeywell temperature control installation.

Bleed Type Valve Avoids Coil Frosting

● The frosting of evaporators "that frequently occurs in room air conditioners and other refrigeration equipment using capillary tube systems" is claimed to be eliminated by the model 104-D constant-pressure expansion valve, a replacement for capillaries offered by the Heating & Air Conditioning Controls Div., Controls Co. of America, Dept. AH&RN, Milwaukee 10.

"The valve, a bleed-type design unit, avoids evaporator frosting by preventing the evaporator pressure from dropping below the freezing point and by maintaining constant evaporation temperature," the company said.

"The 104-D when used on a unit air conditioner, for example, permits adjustment for removing more or less water from the room air. In addition, it can be adjusted to prevent frost accumulation, regardless of load conditions. On water cooler applications, the valve can be adjusted for minimum water temperature and at the same time prevent freezeup of water in the cooler, according to the manufacturer.

"Since the valve features a bleed-type (or slotted-orifice) valve seat design, hermetic refrigeration units can be used with small, low starting torque motors selected on the basis of load under normal average ambient temperature conditions."

In addition to room air conditioners and water coolers, the unit has application on such refrigeration equipment as drink and food dispensers, ice cream cabinets, photo developers, bottle coolers, home freezers, and ice cream freezers.

The 104-D can be used with Refrigerants 12 and 22, methyl chloride, or sulphur dioxide refrigerants.

Fan Coil Unit Has Unique Drain Pan

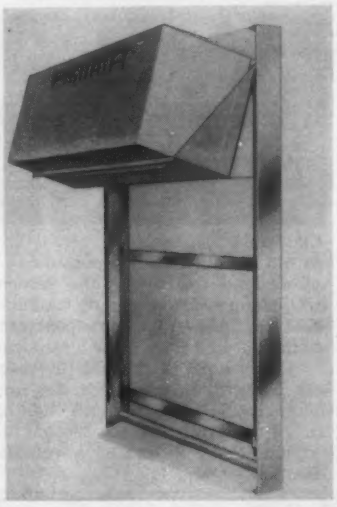
● Addition of a horizontal concealed unit to its "Riviera" fan-coil conditioner line has been announced by Warren Webster & Co., Inc., Dept. AH&RN, 17th & Federal St., Camden, N. J.

This new model of the Riviera heating-cooling conditioner has been designed expressly for motel, hotel, and similar applications and is available in three models with capacities of 270, 470, and 600 c.f.m.

"A uniquely designed drain pan prevents condensate damage to ceilings over which the units are installed and provides positive removal of the condensate," it was stated. "All heating-cooling coils used in these new units are at least three rows deep for high capacity output."

In addition to the fan-coil line, the manufacturer offers the "Webster Newport" heating-cooling conditioner. This "in-wall" unit has a self-contained cooling cycle.

Pull-Down Filter Snips Off When Dirty

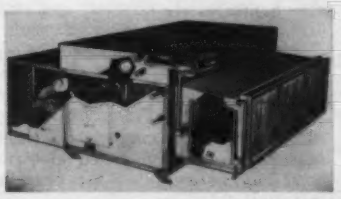


● A new line of Type DS (Definite Seal) "Agitair" pull-down filters for commercial and industrial applications has been announced by Air Devices, Inc., Dept. AH&RN, 185 Madison Ave., New York City 16.

"The media of these units has been thoroughly laboratory tested and is a nominal 2-in. thick glass fiber blanket with excellent efficiency and high dust holding capacity," the company stated.

"Manually operated, Agitair pull-down filters are designed to assure uniform air filtration over the entire active length of the media."

When a new length of media is required, the clean media is pulled down to the required length and the dirty media is snipped off.



Humidity Control Unit Has Sprayed Coil

● Addition of a new "SCD" sprayed coil humidity control unit to its line of air conditioning products has been announced by Drayer-Hanson, Dept. AH&RN, 3301 Medford St., Los Angeles 63.

The line is initially offered in 15 sizes each—horizontal or vertical models; with c.f.m. range from 668 to 32,250. "SCD's" are available with preheat and reheat coils, if required.

Models closely follow construction and performance characteristics of Drayer's line of central station air-handling units, it was stated. Modular construction, arrangements for every application; removable panels; and independent structural steel frame are cited as key sales factors.

Coil section of "SCD" Series has space for 10 row coils—to cool and reheat. Highlight of spray section is an integrally-mounted pump. For automatic water make-up, an automatic float valve is used. For insulation, a vinyl-covered ½-in. mineral fiber type is used on blower section and at top and sides of entire coil section.

Offers Slotted Angle, Accessories Line

● A complete line of slotted angle and accessories has been announced by Lyon Metal Products, Inc., Dept. AH&RN, 22 Plant Ave., Aurora, Ill.

Both regular 14 gauge and heavy-duty 12-gauge angles are available from stock in 10 ft. and 12-ft. lengths. To make planning easier and reduce cutting costs, 14 gauge angles are also available from stock in 6 ft., 7 ft., and 8-ft. lengths, it was stated. The complete line of accessories includes support channels, steel panels, gussets, cleats, and cutter.

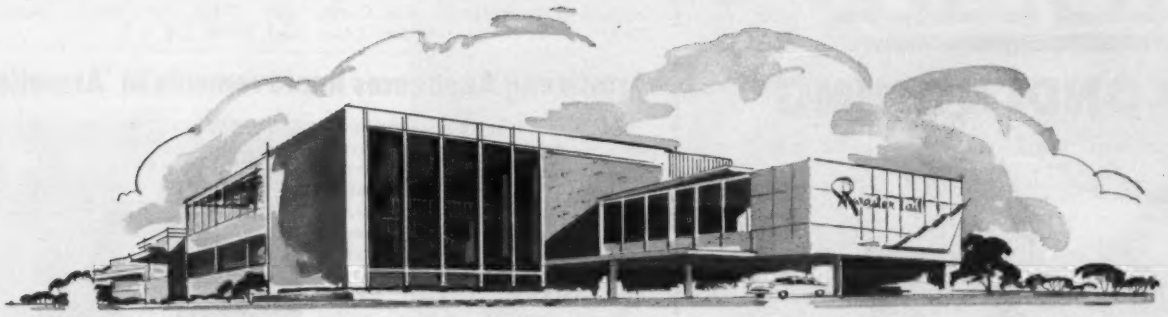
Slotted angle is recommended for such uses as stacking, racking, framing, machine guards, pipe mountings, pallet storage, partitions, bulk storage, and special stands.

Economy Coating Resists Moisture

● "Gacote NA-62," an economy Neoprene-asphaltic coating for resistance to weathering, moisture, and mild chemical service where costlier coatings are not justified, is being introduced by Gates Engineering Co., Wilmington 99, Del.

The product is recommended for such uses as coating underground pipes and tanks, damp surfaces, moisture barriers, pipe exteriors, and tank exteriors.

with the perfect our control problem!"



Designed and built by W. D. Gale, Inc. Architectural consultant: Edward Newman, Mechanical contractor: John E. Green Co., Mechanical consultants: John Harju & Assoc., and Ed Siegel

A Honeywell Control Master Panel provides one-man control of all seven comfort zones at Roostertail Restaurant

"The restaurant manager," says Donald Green, "wanted the opportunity to adjust temperatures separately in each of the seven zones, because each has a different comfort environment and use. Now, with Honeywell's Control Master Panel, he can adjust the comfort level in each zone from his office." According to Mr. Green, "It has been proven to me many times that Honeywell solves problems like this easily with exactly the right equipment and careful planning."

Roostertail Manager Lee Schoenith says he saves a lot of time checking temperatures—especially during peak serving hours. Mr. Schoenith reports: "With Honeywell controls and Control Master Panel, we have no problem keeping our customers happy with consistent, comfortable temperatures."

You get more to work with when you work with Honeywell. Easily installed controls, accurate specifications, prompt delivery and excellent supervision are the advantages enjoyed by every contractor with Honeywell on his team.

Call your local Honeywell office for details. There are 112 conveniently located across the nation. Or, write Honeywell, Dept. AN-3-74, Minneapolis 8, Minnesota.

Mr. Lynch at the Control Master Panel, which enables one man to check temperatures in the Roostertail's seven comfort zones. A great time-saver, especially during rush hours.

Honeywell

First in Control

SINCE 1885

75th YEAR — PIONEERING THE FUTURE

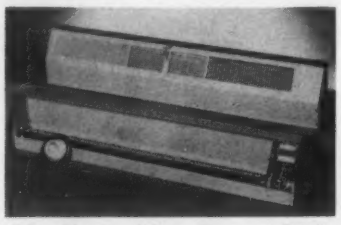
Automatic Baseboard Diffuser Said To Save Fuel

● An automatic baseboard diffuser which is claimed to save on fuel consumption and on cooling equipment sizing has been developed by Control Systems Co., Dept. AH&RN, 5169 N. Elkhart Ave., Milwaukee 17.

According to the manufacturer, this thermostatically controlled diffuser "solves the problem of how to maintain the desired temperature in individual rooms or zone areas which tend to be unduly cool or warm." The company says the diffuser "can be installed in new or existing perimeter warm air heating or cooling systems without any major changes.

"The diffuser unit consists of an automatic damper operated by a thermostatically-controlled 24 volt electric motor. The diffuser is placed over the supply boot and fastened in position. An electric cord can be supplied for plug-in installations.

"The remote thermostat and transformer are connected to the diffuser with low voltage wiring.



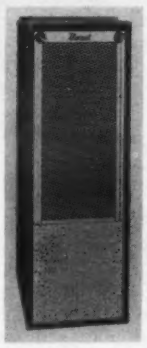
All other wiring is completely within the diffuser. By-pass dampers between warm air and return air plenums automatically balance duct pressures to assure constant volume.

"Dimensions of the new diffuser are: Length, 33 in.; width, 3½ in.; height, 6½ in. The unit has a range of from 80 to 200 c.f.m. adjustable by means of a volume damper."

More details on the products described on these pages may be obtained by writing the manufacturer at the address given in each story.

Bard Introduces Highboy Gas Furnace Series

● A new series of highboy and counterflow gas-fired furnaces now in production completes the 1960 Bard line of gas and oil heating equipment, according to Bard Mfg. Co., Dept. AHRN, Bryan, Ohio.



The new economy units are available in 75,000, 100,000, 125,000, and 150,000 B.t.u. input, featuring sectional type heat exchangers and ribbon burners. Cabinets are baked green hammertone enamel with white fronts, 57 in. high and as narrow as 14½ in.

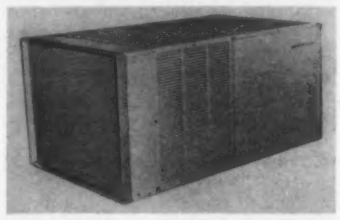
All units are adaptable to air conditioning and have air deliveries for matching to any type residential duct system, the company said.

Factory-Packaged 'Tuckaway' Unit Comes In 3 Sizes

● Its factory-packaged 1960 "Tuckaway" air-cooled air conditioner is available in 2, 3, and 5-hp. units for residential and light commercial applications, according to Perfection Div., Hupp Corp., Dept. AH&RN, 1135 Ivanhoe Rd., Cleveland 10.

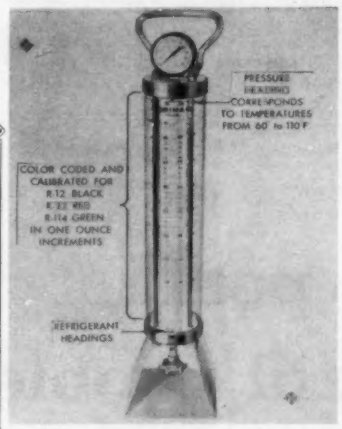
The units can be installed in the attic, basement, crawl space, or outside the home on a concrete slab. In store installations, the unit may be mounted on the roof or installed through the transom over a door.

All Tuckaway units have capacity certified by the Air-Conditioning & Refrigeration Institute and are tested under standards of the ARI, the company said, adding: "Even more rigid operating tests are conducted on each unit before shipment from the factory.



"All components are housed in a heavy-gauge steel cabinet, weather protected with a special Underwriters' Laboratory approved corrosion resistant primer capable of withstanding a 2,000-hour exposure to a salt spray."

Charging Cylinder Permits Factory Accuracy


PRESSURE HEADING CORRESPONDS TO TEMPERATURES FROM 60° to 110°F
COLOR CODED AND CALIBRATED FOR R-12 BLACK R-22 RED R-114 GREEN IN ONE OUNCE INCREMENTS
REFRIGERANT HEADINGS

● In the "Robbi" line of refrigeration tools, Robinair Mfg. Corp., Dept. AH&RN, Montpelier, Ohio, offers the "Dial-a-Charge" charging cylinders.

"These new service cylinders permit factory accurate recharging of refrigerant systems in the home," the company said. "This device allows the serviceman to easily and quickly compensate for volume fluctuations resulting from temperature variations by working directly with pressure.

"The serviceman simply 'dials' the plastic shroud, containing the pressure volume relationship chart, to the point where the pressure heading over the sightglass tube corresponds to the pressure gauge reading."

Accuracy is claimed to plus or minus a quarter of an ounce of refrigerant. Two models are available—12206 for 40-oz. capacity and 12550 for 5 lb.

Armstrong Announces Improvements In 'Armaflex'

● Major improvements have been made in its "Armaflex" foamed plastic pipe covering insulation to give it a higher temperature range, complete ozone resistance, and smoother surface for easier handling and better appearance, according to Armstrong Cork Co., Dept. AH&RN, Lancaster, Pa.

The improved product, called "Armaflex 22," is for use on liquid cooling and heating lines, chilled water lines, and other cold lines in plumbing, heating, air conditioning, and refrigeration.

"Armaflex 22 can be used from below zero up to 220° F." the company said. "It can be applied to sharp bends and elbows without danger of fissuring or cracking."

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Made to Beat the Desert Heat and Arctic Cold

A UNIT AND SIZE TO FIT EVERY NEED, TWO TON AND LARGER. *COMPLETE PACKAGES* OR INTEGRALLY MATCHED *"TWIN TEMP" HEAT PUMPS* TESTING AND RATING BASED ON A.R.I. STANDARDS.

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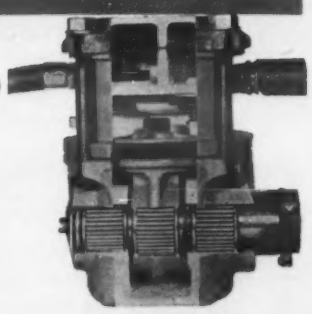
MODEL 77

Diaphragm Descaling Acid Pump

Descaling compounds can't affect this pump! All parts in contact with compounds are completely acid-resistant. Can be supplied as portable unit with pump and motor mounted on sturdy base and with convenient carrying handles.



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Plus a complete line of centrifugal pumps . . . sized to fit your needs. ¼ H.P. thru 10 H.P. Easy to install and compactly built. Advanced features include exclusive baked-on lifetime finish to enhance appearance and resist corrosion, John Crane mechanical seal, and all-bronze one-piece impellers. Continuous duty motor, 1750 rpm or 3450 rpm.

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Export of U.S.-Made Air Conditioners To Caribbean Seen Doubling by '65

MIAMI BEACH, Fla. — The export of American manufactured air conditioning equipment to Caribbean markets will more than double by 1965, a group of distributors from 13 Latin American areas was advised here recently.

Aldo Oliva, sales manager of packaged equipment for Carrier International Ltd., predicted an industry sales volume by 1965 of $6,000,000 for room air conditioners and $4,000,000 for packaged equipment.

The figures were presented to the visiting group during a discussion of market trends and potentials at a three-day meeting at the Bal Harbour hotel.

The distributors joined a group of Carrier officials, distributors, and dealers from the Miami area for a demonstration of the Carrier 1960 line of Unitary Equipment Div. products.

The Latin American distributors were particularly interested in the "Automatic Air Purifier," a new type of product which combines odor removal, cleansing of dust and pollen from the air, and humidification, it was reported.

Expansion of tourist traffic from the United States to the Caribbean islands and Venezuela was rated a major factor in the growth prospects for air conditioning in their areas, the distributors agreed.

As new jet air service brings the outer islands closer to American population centers in both time and cost, more tourist accommodations are being constructed and older facilities improved, they reported.

The economic development of Puerto Rico, Mexico, and Venezuela was cited as a major source of new business for the growing air conditioning industry.

In Puerto Rico, Oliva noted, the introduction of shopping centers and cooperative apartment houses, and the construction of modern new factories designed to improve productivity, are boosting sales of a variety of equipment.

Cooperative apartments, a growing factor in local residential real estate development since their introduction in 1957, are absorbing room air conditioners, with some of the more expensive projects promoting central equipment as a deluxe feature.

Shopping centers, expanding from San Juan and Santurce to Ponce are providing a good market for packaged equipment, it was stated. This is also true of new industrial plants, especially in the textile, plastics, and electronics fields.

Caracas, rated as one of the major growth areas of Latin America, has been absorbing an increasing volume of packaged and room units for small stores and shops, according to Carlos Fischer, manager of S.A.V.E.R. Guinand, Carrier distributor. Fischer noted that the room air conditioner in residences has become a "status symbol."

The Carrier line benefits from the availability of specially-designed 50-cycle equipment, the distributors reported, "since the use of 60-cycle units in many of their areas provide 20% less than rated cooling capacity when operating on 50-cycle current."

In Mexico, economic prosperity is responsible for the construction of sizable residences which are being equipped with commercial-size units of 10-ton cooling capacity, Oliva further pointed out.

Commercial, rather than residential, installations dominate the markets in coastal areas of Peru and Chile, in Mexico, and in the Dutch West Indies and Surinam, he noted.

As happened in the United States nearly a decade ago, the installations in small stores and offices are paving the way for later development of residential air conditioning markets, Oliva observed. Heavy equipment sales have been largely directed to hospitals, universities, and hotels in the Caribbean islands and in Mexico.

Vere Hunt, assistant treasurer of Carrier Corp., advised the visiting distributors on procedures and availability of financing for major projects from the U. S. Export-Import Bank for factories, office buildings, and hospitals which have "national development value."

Alvarez Circling Globe for Frick

WAYNESBORO, Pa. — Joaquin Alvarez, export sales manager of the Refrigeration Div. of Frick Co. here, is now on a business trip around the world.

Departing from New York City and traveling entirely by plane, he went first to Lisbon, then to Madrid. Other stops include Basel, Athens, Istanbul, Beirut, Tehran, Karachi, New Delhi, Bombay, Calcutta, Dacca, Rangoon, Bangkok, Phnom Penh, Saigon, Singapore, Djakarta, Hong Kong, Manila, Agana, Honolulu, and San Francisco.

Frick has distributors in practically all these places, some with long service records, it was noted.

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Replacement Units

Available in a wide size range for Commercial, Semi-Commercial, Air Conditioning and Home Refrigerators.

EASY TO INSTALL ★ ECONOMICAL

AT ALL LEADING JOBBERS

ROTARY SEAL DIVISION
MUSKEGON PISTON RING CO.,
SPARTA, MICHIGAN

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

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3 Areas Report Air Conditioner Sales Up for '59 over Previous Year

DETROIT — Reports from four more utilities on appliance sales in their territories show that 1959 air conditioner volume was well ahead of the previous year in three areas and down slightly in a fourth.

In the 32-county area served by Pennsylvania Electric Co., dealers sold 2,266 air conditioners last year. This was a gain of 87% compared with 1958.

According to a report issued by Niagara Mohawk Power Corp., covering sales of 25 distributors in eight western New York counties, 1959 air conditioner sales soared to 4,712 from 2,891 in 1958.

United Illuminating Co., New Haven, Conn., reported that room air conditioner sales by dealers in that area climbed 39% over the year-ago level. The utility's survey did not include 3,102 dehumidifiers sold during a three-month campaign, compared with only 300 sold in all of 1958.

In the area served by Kansas Power & Light Co., Topeka, dealer sales of room air conditioners in 1959 totaled 6,349, down 1.8% from the 1958 total of 6,466. However, 12% fewer dealers reported their sales last year than in 1958.

A report on air conditioner sales in several other areas of the country was published in the Feb. 22 issue of the NEWS.

All's Quiet on S. Main

Moving, Muffling Settles Noisy Conditioner Row In Amiable, Neighborly Fashion

ALBANY, N. Y.—It's quiet now up S. Main Ave. way, and should be comparatively quiet next summer.

The air conditioner at the home of Mr. and Mrs. Julius Perlmutter, 350 S. Main Ave., has been moved from the side of the home nearest that of their next door neighbor, Mr. and Mrs. Nathan Sitrin, 344 S. Main Ave.

The exhaust ducts of the air conditioner have been altered by the Perlmutters to muffle the sound of the fan.

The two families — not so friendly during the humid days, particularly last July, are now "neighborly and friendly" to put it in the words of legal papers ending the injunction proceedings brought by the Sitrins against the Perlmutters.

The Sitrins, in their suit, cited the noise of the Perlmutter's air conditioning equipment. It was argued that the air conditioner was of a "commercial type" and not one commonly used in a residential area.

The "discontinuance" of the Supreme Court injunction proceedings, agreed mutually by both families, was approved by Supreme Court Justice Isadore Bookstein.

It sets forth that the air conditioner has been moved from the north side of the Perlmutter home "to a point near the center of the house, near the attic"— that "the intake and exhaust ducts have been insulated" to minimize the noise.

It discloses also that Sitrin contributed $250 to the Perlmutters, to help finance the cost of changing the air conditioner's location and that "their differences have been settled in an amiable and neighborly fashion."

Research, Development Group Meets March 10

GREENSBORO, N. C. — Annual convention of the Heating and Air Conditioning Research and Development association will be held at the Sedgefield Inn here March 10 to 12.

The program as announced calls for a "smoker" the first evening, a full-day session and banquet the second day, and a half-day session Saturday.

Allen Park Adopts Reciprocal Code For Detroit Area

ALLEN PARK, Mich. — The city of Allen Park has adopted the reciprocal refrigeration and air conditioning code for the Detroit area. It became effective last Jan. 1, Al J. Parent, city refrigeration inspector, advised area contractors recently.

"Any contractor doing installations or service work in this city shall have a refrigeration contractor's license, or have his Detroit license registered under the reciprocal licensing clause of the ordinance before any work is started," he explained.

He added that the city has established a fee of $7 for inspection of any installation or alteration prior to issuing a permit.

In addition, Allen Park has established a fee of $20 per ton, above the first five tons, for all combined refrigeration and air conditioning equipment using unrecirculated city water.

7 Cargo-Passenger Ships To Be Cooled

NEW YORK CITY—Hi-Press Air Conditioning of America, Inc., has booked orders for the installation of its air conditioning systems on seven of the combination cargo - passenger ships now on order in U. S. shipyards for the Moore-McCormack Lines, S. W. Brown, president of Hi-Press, reported.

The new vessels, especially designed for Moore-McCormack, will approximate 11,000 tons each and will have deluxe accommodations for 12 passengers each. All staterooms, quarters for officers and crew, and public spaces will be air conditioned with Hi-Press equipment.

Brown also announced that Hi-Press air conditioning systems will be installed on all five of the 715-ft., 48,580-ton tankers now on order for an affiliate of the Standard Oil Co. of California.

Hi-Press is a system of air conditioning, including cooling, heating, and ventilating, which employs small diameter piping, instead of conventional ductwork, for the distribution of conditioned air at high pressures and high velocities.

During 1959

Shreveport, La. Issued 1,832 Permits For Heating, Cooling, Refrigeration

SHREVEPORT, La.—During 1959, the Air Conditioning Inspection Dept., City of Shreveport, issued 1,832 permits for the installation of air conditioning, heating, and mechanical refrigeration systems, according to Clyde Juneau, air conditioning inspector.

TOTAL COST ESTIMATED AT $3,448,742

Total equipment and installation cost amounted to approximately $3,448,742, Juneau reported. Permit applications were divided as follows:

Residential: Year-round air conditioning and heating—440; air conditioning—69; heating—987; replacements—21. Total—1,517.

Commercial (or other than residence): year-round air conditioning and heating—107; air conditioning—36; heating—28; replacements—14. Total—185.

Commercial and residential alteration and/or additions—72.

Refrigeration—58.

LARGEST WAS SCHOOL JOB

Juneau said the largest commercial system during the year was for heating a school. This amounted to $195,000 for equipment and installation.

In the residential field, the largest air conditioning and heating system was installed for $7,543.

Elaborating on the report, Juneau explained that replacements could include air conditioning, heating, or refrigeration, and represent the replacement of a major part of a system. Alterations and/or additions could include air conditioning, heating, or refrigeration.

The heating permits, he said, were mostly for forced warm air heating, both direct and indirect. A few of the installations were for vented gas wall furnaces and vented unit space heaters. Permits are not required for unvented AGA-approved heating units.

Refrigeration permits were for remote type installations and/or water-cooled units. No permits are required for self-contained air-cooled refrigeration appliances.

San Diego Bureau Considers Divison for Air Conditioning

SAN DIEGO, Calif. — The Bureau of Home Appliances of San Diego County reported that plans now being studied would envision formal establishment of an Air Conditioning Div. of the bureau "to permit a more continued and better coordinated promotion of this industry in the San Diego area."

J. Clark Chamberlain, secretary-manager, pointed out that interests of the air conditioning group in the bureau have been represented by Dick Huntington of University Heating & Air Conditioning as chairman, and Dave Jackson of Jackson & Blanc as vice chairman. While this committee has existed, it hasn't been a formal division.

General Controls Names Liepin to Eastern Region Post

GLENDALE, Calif. — J. F. (Jack) Ray, vice president charge-of-sales for General Controls Co., has announced the promotion of O. L. Liepin to heating and air conditioning account executive for the firm's eastern region.

Liepin's new duties include selling domestic oil and gas heating controls for residential use. He will also handle General Control's line of air conditioning controls at the original equipment manufacturer level.

The new account executive, headquartered in the company's Fort Washington, Pa. offices, has been regional sales representative.

Ray also announced establishment of a San Diego area resident office at 4750 Seminole Dr. by General Controls.

Supervised by Don Wolf, new field representative for San Diego, the office provides service for original equipment manufacturers' sales outlets as well as for the aircraft and electronic industries, according to the official. It will also handle all contacts with the heating and air conditioning wholesalers and dealers in the San Diego Bay area.

Because of the proximity of General Control's manufacturing and warehouse facilities in Glendale, no local inventories will be maintained in the San Diego office at present, Ray explained.

6% Interest

Layaway Money Works For Customer In Conditioner Promotion

DALLAS — A layaway savings plan stirred up interest in pre-season air conditioner sales.

Duke Doyle's Appliance store is paying 6% interest on the amount deposited by each customer towards an air conditioner, and the customer can pay any amount he wants.

Doyle says the plan is a good sales clincher and the amount of interest he must pay is nominal.

L. C. Messick Directs Medallion Home Project

NEW YORK CITY — Laurance C. Messick, who has been manager of the National Lighting Bureau and a trade magazine editor, has been appointed director of the Medallion Home Project.

This was announced by Joseph F. Miller, managing director of the National Electrical Manufacturers Association. The association assumed national responsibility for the administration of the program this year.

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.
Only 25¢ each.

Blanks or Bullets
for your sales showdown?

The prospect sat meditating an important decision. His hand reached for the phone. He had to decide now. Which heating and air conditioning system would be right for his home? Finally, quick drawing Lennox advertising and promotion directed his call to a Lennox dealer.

Now the dealer took over... it was time for the showdown!

This Lennox dealer—backed by intelligent, well-directed national advertising... workable local sales tools and special training programs for his installation crews... faced the situation squarely. He made the sale.

When Lennox triggers a sales promotion, it's aimed at building the dealer's business on a *sound* and *profitable* basis. We want to help him become the recognized heating and air conditioning expert in *his* community.

If your sales ammunition is making a lot of noise without results, it's time for you to get the lowdown on the profit potential of a Lennox dealership. Get the "on target" facts ... write or phone for the full Lennox story, today.

LENNOX *World leader in indoor comfort for home, business, schools*

Lennox Industries Inc. founded 1895 • Marshalltown, Iowa • Columbus, Ohio • Syracuse, N. Y. • Fort Worth, Texas • Salt Lake City, Utah Decatur, Ga. • Los Angeles, Calif. • Des Moines, Iowa • Lennox Industries (Canada) Ltd. • Toronto, Montreal, Calgary and Vancouver

He Majored In Business Administration

Close Attention To Figuring Overhead And Profit Assures Contractor's Success

By C. Dale Mericle

DIXON, Ill. — No item of overhead is overlooked by John F. Hofmann, who operates Hofmann Heating & Air Conditioning Co. here. As a result, his prices are about the highest in town, yet he keeps a crew of four working 52 weeks a year, makes a good profit, and is slowly but steadily increasing his gross sales.

This is a small organization, true, but it's the optimum size, considering the market possibilities and the goals of the owner, one infers in talking with Hofmann.

"At one time I had 11 people working for me, including two part-time salesmen — schoolteachers — but it turned out we were mostly spinning our wheels as far as profits were concerned," Hofmann says.

"It soon became obvious that we couldn't keep 11 men working all year around, and you know what happens then. It's only human nature for the men to stretch a job out as long as possible, under those circumstances. This bites sharply into profits," he says.

For the past couple years, therefore, the firm has consisted of four full-time mechanics, a part-time girl bookkeeper, Hofmann (who puts in 12 or more hours a day), and a C.P.A. who handles the firm's tax matters and audits the books once a year.

Gross sales are running around $140,000 annually.

The profit picture is satisfactory, too, but this doesn't mean that Hofmann is satisfied with the status quo. He wants—and intends—to increase sales while maintaining at least the same profit margin as now, but he has no intention of increasing sales at the expense of profit.

For the past couple of years a good deal of industry effort has been devoted to helping dealers and contractors improve their profit picture. Speeches, bulletins, seminars in management all have been aimed to this end.

To find out what progress has been made along these lines, the NEWS is checking with some dealers who have adopted changes in management method. While perhaps not making as exciting reading as the report of a successful sales campaign or a happy solution to a difficult application problem, the importance of making a profit is of interest to every dealer. The NEWS hopes readers will come forth with further suggestions on this matter of "making a profit."

There are no special gimmicks or secret formulas involved in the Hofmann success story. Rather it's simply a question of common sense plus hard, effective work. And of the preceding words, "effective" is probably the most important in this instance.

Background of Hofmann is significant, too, in itself but it doesn't explain everything.

The firm was started in Dixon 'way back in 1902 by Hofmann's father, who had learned the tinsmithing trade in Germany before coming to this country. The elder Hofmann first settled in Elgin, Ill., where a brother was a watch-maker| How Hofmann's father wound up in the small community of Dixon is a brief but interesting story in itself which is best told, however, by one of the eight children.

As a young man son John worked for his father learning the art of tinsmithing but detesting, as a matter of fact, the manual labor involved.

Majored In Business Administration

So it was not surprising that John majored in Business Administration at Northwestern university, where he also won a letter in track. After service with Uncle Sam and three years of selling insurance in Chicago, John bought out his father's business in Dixon, which he has been operating for more than 10 years now.

Of passing interest is the fact that as a youth the younger Hofmann went by his middle name Fred or "Fritz," and is still so known locally, to the confusion of outsiders and factory representatives who come looking for John, which was also his father's name.

Educational background of the younger Hofmann obviously is of considerable advantage in operating his business. He also had the experience of knowing quite a bit about shop operations. The necessary knowledge of sales, engineering, and service involved in the business he's acquired as he went along.

("Wish manufacturers would devote more effort to giving us service information, however," he complains.)

Careful Estimate of Work To Be Done Is First Step

Correct pricing of jobs to meet overhead and make a profit is important, of course, but Hofmann makes the point that this has to start with a careful estimate of the work to be done.

On all complete heating and air conditioning jobs, Hofmann makes a careful analysis of the heat loss or gain.

"Not only does this permit us to do a good job but it impresses the customer or prospect as well," he comments.

With residential jobs his usual approach is to note every item of cost and then add a markup of 30%.

A slightly different approach is employed on industrial or sub-contract work, where everything is itemized for the cus-

Engineering the temperature...

with a ONE PIECE, 233 TON Evaporative Condenser. Factory assembled and shipped as a unit, the compact DF-41A is only 93" high, 96" wide and 247" long.

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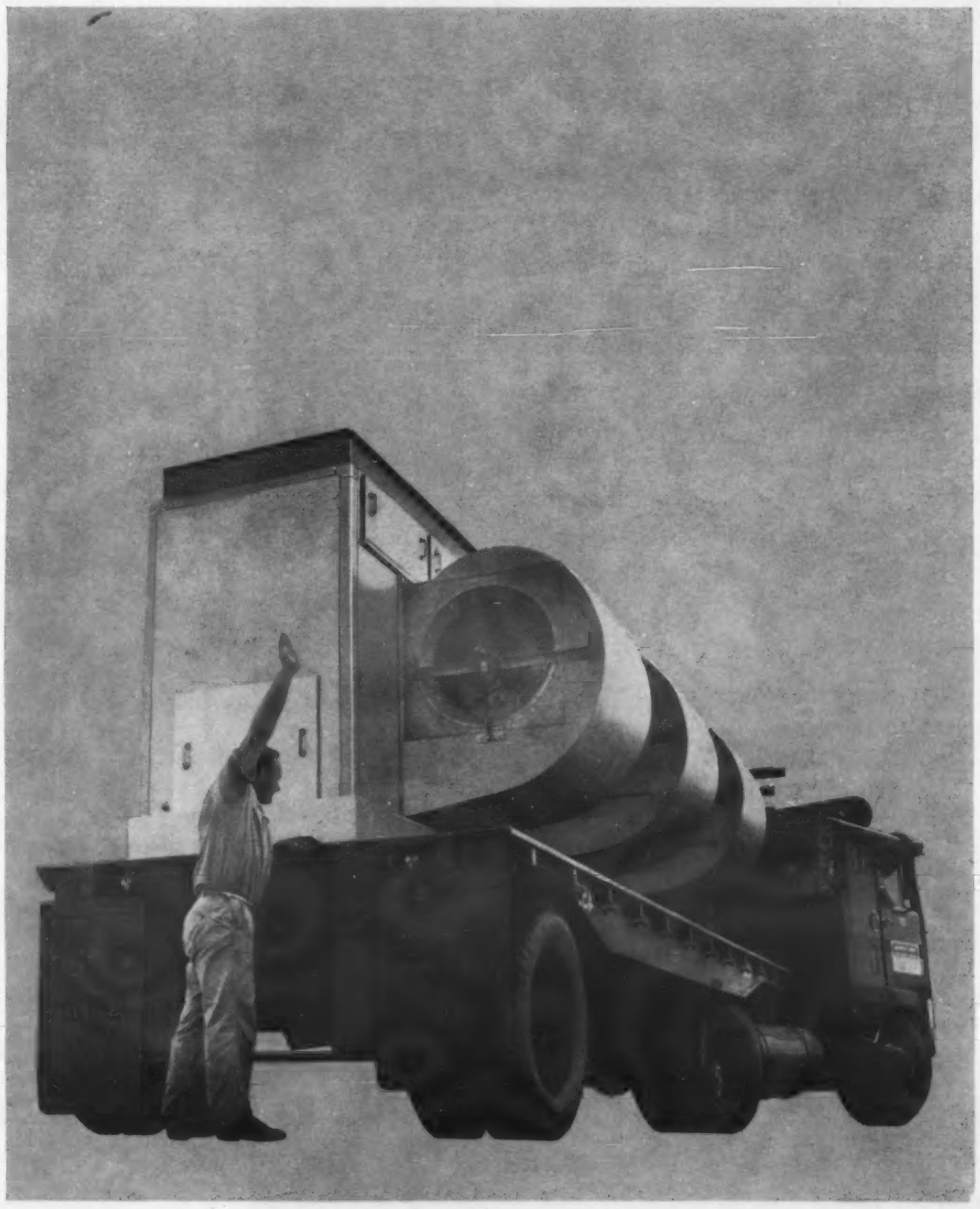
7250 East Slauson Avenue, Los Angeles 22, California

RECOLD



tomer's records, too.

If Hofmann pays 11 cents a lb. for sheet metal, say, he'll charge the customer 20 cents a lb. to cover overhead on this.

"It costs money to handle the metal, and there's also wear and tear on your machines and tools which has to be paid for," Hofmann explains.

Hofmann operates a union shop, and the scale calls for $3.50 an hour for journeymen. Payroll taxes, insurance, etc., add another 8% to direct labor costs, so Hofmann bills the time at $3.78 an hour.

To the total combined charges for metal and labor, figured as above, Hofmann adds 10% of the total thus far for overhead items not covered in the above.

Final price is arrived at by adding 10% profit to all the above.

As an illustration, which omits the detailed breakdown on gauges of metal, disposition of manhours, and other items that may be involved in an actual job:

100 lbs. of metal @ 20¢	**$ 20.00**
50 hours @ $3.78	**189.00**
	209.00
10% overhead	**20.90**
	229.90
10% profit	**22.99**
Total price	**$252.89**

(Based on metal costing 11 cents a lb. and the wage rates being $3.50 an hour, the selling price of $252.89 represents a 36% markup over the basic cost of $11 for metal and $175 for labor.)

Customer Knows How Hofmann Arrived at Price

The above approach is used not only for estimating but is presented to customers so they'll know how Hofmann arrived at the price he's asking.

While making a detailed estimate is quite important, it's possibly even more important to determine how nearly correct the estimate proved when the job was actually installed, Hofmann believes.

"If you don't compare actual costs with your estimates you'll never know whether you're on the right track or not," he says.

Obviously, if the estimates are running consistently too low, the contractor will be losing money; if they're running too high, he'll be losing jobs.

Checks Costs Monthly

So at least once a month Hofmann makes a careful check to see how costs are running.

Other things are done as well to keep costs and overhead within limits. A perpetual inventory system, using a standard but simple method, was set up about two years ago, for example.

A time record is kept on each employe. Hofmann requires each man to account for 7½ hours a day.

Both inventory and time records are kept in loose-leaf form, and most of this data is taken off the job sheets by Hofmann himself every morning.

Permanent records are prepared by the part-time bookkeeper.

In general, though, use of printed forms is kept to a minimum to simplify things and cut overhead. Plain scratch pads, for example, are used to note service calls, etc.

Admittedly, this approach might not work in a larger company, "but we're a small outfit so why spend money unnecessarily," Hofmann suggests.

Further, the firm services no equipment other than what it installed except when Hofmann feels pretty sure a good sale might develop.

Every effort is employed to eliminate time-wasting practices on the part of employes. On complicated jobs Hofmann goes over the duct layout blueprints coding them in color so the foreman and crew will know immediately what they're supposed to do. This saves a lot of head-scratching and time (at $3.78 per hour per man) on the site, Hofmann believes.

He also makes it a practice to show up on jobs frequently. Partly this is to make sure the job is going in right and that the men are working, but it's also to impress the customer.

"The average customer feels better when he knows 'the boss' is taking a direct interest in the work," Hofmann declares.

Selling end of the business is handled by Hofmann, too, who has a lot of air conditioning jobs to his credit on the main street of Dixon and elsewhere.

Lines handled include Carrier air conditioning, Lennox and Timken heating.

Good salesmanship and good installations are probably the main reasons for the firm's good sales record (not spectacular but profitable), but another factor which can't be ignored is Hofmann's activities in community affairs. He's been mayor and police commissioner and has held other civic posts.

NAW Executive Management Courses Set For 3 Campuses; Subjects Announced

WASHINGTON, D. C. — The National Association of Wholesalers announced completion of arrangements for sponsoring its ninth annual wholesale executive management courses to be held on three university campuses in 1960.

The Ohio State University College of Commerce and Administration (June 12-18), The Wharton School of Finance and Commerce of the University of Pennsylvania (June 19-25), and the Graduate School of Business at Stanford university (Sept. 11-17) will again present the courses.

One hundred and seventy-two wholesale executives will again be able to go "back to school" for a week of intensive executive management training.

According to Paul L. Courtney, NAW executive vice president, subjects to be covered include personnel relations and training, financial management, operations, cost and credit controls, budgeting the wholesale operation, insurance for wholesalers, customer and supplier relations, and a new course on wholesaling law.

Students will be assigned to classes of not more than 24 wholesalers and each class further broken down into small groups of six individuals for specific wholesale operating case studies.

Tuition for the full week's study, meals, room, books, pictures and opening "get acquainted party" is $275, according to the announcement.

How can we boost production?

HOW CAN WE CUT TUBE COSTS?

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How can we find a company that knows refrigeration?

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For the complete story just fill in the accompanying coupon and drop it in the mail . . . TODAY!

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Wolverine Trufin is available in Canada through the Unifin Tube Division, London, Ontario.

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TECH CENTER

by Frank J. Versagi, Technical Editor

Applied Electrical Theory (Part 12)

Electromagnetism

Discussion of practical power generation was based on the fundamental that an electromotive force and current are induced by the relative motion between a magnetic field and an electrical conductor.

A related fact is a prerequisite for any further discussion of practical electricity: **Whenever electric current flows through a conductor, a magnetic field is produced around that conductor.**

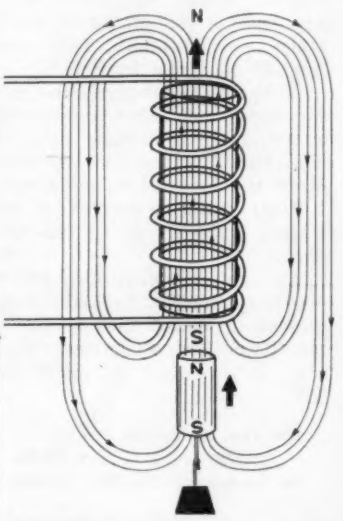
The classic demonstration of this fact is the observation of the deflection of a compass needle when a wire carrying direct current is brought near. Reverse the power leads and the needle deflects in the opposite direction. Normal 60-cycle alternating current will not deflect the needle, since the current is reversing polarity 120 times a second, and the needle cannot follow such rapid reversals. If the leads on a d.c. circuit are alternated manually a couple times a second, the compass needle will deflect first in one direction, then in the other.

(A snap-around ammeter, such as used in field service work, is snapped around a single conductor. It is essentially an electromagnetic instrument designed to react to the average intensity of the magnetic field around the conductor.)

This ability of an electric current to produce a magnetic field finds application also in solenoids, motors, transformers.

The solenoid, for example, is based on the fact that when an electrical conductor is coiled, the magnetic field produced by current flow is concentrated and can be made to do work. If the coil is located around a soft iron bar, an **electromagnet** is created whenever current flows; the bar loses its magnetism when the circuit is broken. Electromagnets can be produced with either alternating or direct current.

Essentially, a **solenoid is an electromagnet with a movable coil.** By properly designing the core, the coil, and the mechanical factors involved, it is possible to make the movable iron core open or close a fluid line, make or break a circuit when the circuit to the solenoid coil is made or opened. Consideration of such factors as the material used in the body, needle, seat, as line size, liquid or vapor, and temperature determines actual function of a solenoid valve, but the electromagnetic principle of operation is simply that when a current is applied to the electrical coil, the concentrated magnetic field draws the soft iron core into the center of the coil.



Examples of solenoid usage: on both gas and liquid lines in refrigeration systems, safety valves on gas furnaces, magnetic circuit breakers.

In this last application, the normal current through the coil has not enough electromagnetic effect to attract a lever which holds closed two contacts making the circuit being protected. When an overload occurs anywhere in the circuit, the increased current flow through the solenoid coil increases the induced magnetism enough to attract the lever and break the contacts, opening the circuit. An external reset button allows reclosing the circuit.

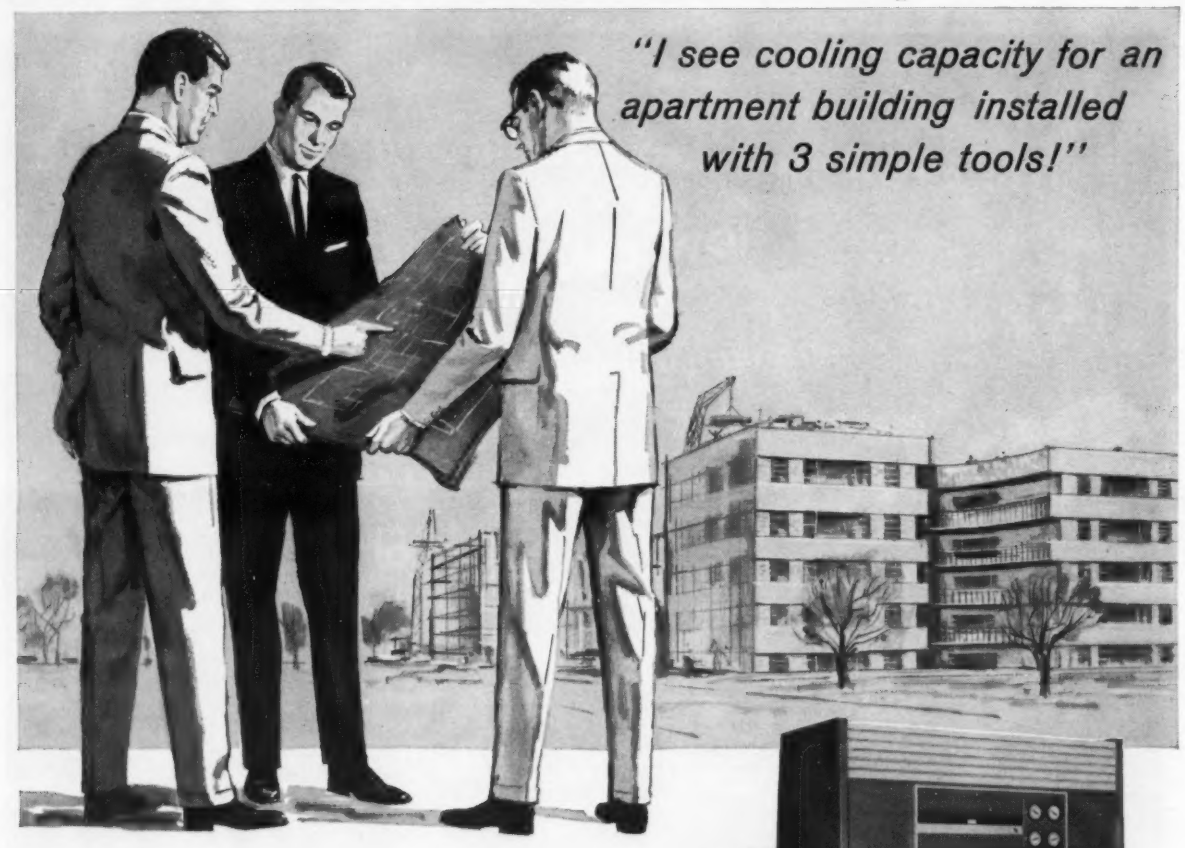
* * *

One of the most important applications of electromagnetism is the transformer—the electrical device with no moving parts which either raises or lowers voltage supplied to it. Whether the transformer is for an electric train, for converting line voltage to control voltage, for stepping up or down the tens of thousands of volts involved in power transmission and distribution, the principle of operation is the same.

Basic construction of a transformer consists of two coils of wire. That coil to which the external voltage is supplied is called the **primary coil;** that from which the altered voltage is obtained is termed the **secondary coil.**

Recalling that alternating current fluctuates in quantity as depicted by its wave form, it can be understood that the magnetic field surrounding a conductor of alternating current will also fluctuate. In the primary coil, therefore, the current and its electromagnetic field grow and diminish as the alternating current cycles its 60 times a second.

When a secondary coil is placed near the primary (but in no way connected to it) this fluctuating magnetic field cuts



York Hermetic Turbopak
100% Factory Assembled

—One piece rig completely wired, piped, charged

CUTS JOB-SITE COSTS—The Turbopak is fully factory packaged including insulation. Shipped and rigged as a single unit—no aligning or refrigeration piping on the job. Simple water and power connections are all that's necessary for installation.

50% SMALLER—A 130-ton Turbopak is only 14′ long, 5′ deep and 6¾′ high—half the size of other designs. Space-saving unit handles easily, fits in confined areas. Exclusive precision-built Borg-Warner power transmission accounts for unit's compactness.

LIGHT WEIGHT—Exclusive tri-duty shell and advanced centrifugal design keep weight to a minimum. No structural base or foundations needed. Automatic electronic control center is factory-wired for quick field connection. Prerotation vane capacity control.

ACCESSIBLE FOR EASY SERVICING—Quiet, trouble-free hermetic centrifugal unit is enclosed in an accessible casing should servicing be necessary. Otherwise, smooth, attractive enclosure requires only dust-cloth maintenance. 65 to 600 tons capacity.

Another York Trail Blazer Concept Proved In Action At *Birch Towers, Ft. Lauderdale, Fla.*—A compact 150 hp York Turbopak supplies chilled water to 137 York 3-pipe Hi-I Induction units, bringing occupants of these luxurious apartments the ultimate in instant personalized comfort.

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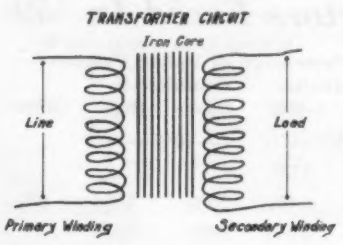


across the turns of the secondary, in effect producing relative motion between a conductor and magnetic lines of force. Whenever such relative motion takes place, an electromotive force is induced. Therefore, an emf is induced in the secondary of the transformer and if the secondary has a circuit connected to it, current will flow in the circuit.

Whether a transformer raises or lowers the voltage depends on the relative number of turns in each of the magnetically coupled coils. If the secondary coil has 10 times as many turns as has the primary, the voltage will be stepped up some 10 times. If the secondary coil has one-tenth as many turns as has the primary, the voltage will be stepped down in the same ratio. (See diagram in columns 4 and 5.)

Take two 120/12-volt transformers as are commonly used for bell work, some control circuits. Connect the first primary to a 120-volt source; 12 volts can be measured across the secondary. Connect these secondary leads to the normal secondary leads of the second transformer (making the normal secondary coil a primary coil) and a voltmeter will show 120 volts across the new secondary of the second transformer.

But the 120 volts from this transformer will barely make a 25-watt bulb glow; the transformer obviously does not have the power capacity of, say, a pole transformer which also supplies 120 volts to several houses. The construction of the transformer—the size and weight of conductors, the use of an air core or an iron core, whether it is a dry-type or an oil-type transformer—all bear on the total power which may be obtained from a transformer. Each is built with a specific and limited group of applications in mind, and most are labeled or in someway identified. Smaller transformers are rated in watts or in VA (volts-times-amps which equals watts); larger transformers are rated in KVA —kilovolt-amps. A typical distribution transformer at a substation, for example, might have a 20,000 KVA capacity. (Prefix **kilo** indicates a thousand—kilowatt is a thousand watts.)

It should be obvious that direct current cannot be transformed through a magnetic couple as used in transformers. If a steady, non-fluctuating direct current were to flow through the primary coil, the resulting magnetic field would be essentially stationary; no lines of force would be cutting conductors, so no emf could be induced in the secondary coil. (There is a momentary induction when the d.c. circuit is made or broken.)

* * *

One further effect of electromagnetism must be understood before further discussion—the phenomenon of **self-induction.**

Around a given conductor carrying alternating current, we have seen that there is a fluctuating magnetic field. **Necessarily this fluctuating magnetic field cuts across the originating conductor, itself.** Since relative motion between a conductor and a magnetic field always induces an emf in the conductor, an emf must be induced in the same conductor from which the magnetic field originates.

The fact is that this self-induced emf always acts to oppose changes in the original electromotive force. For this reason, the emf is termed **counterelectromotive force** or **back-emf.** And such magnetically created opposition to current flow in a circuit is called **inductance.**

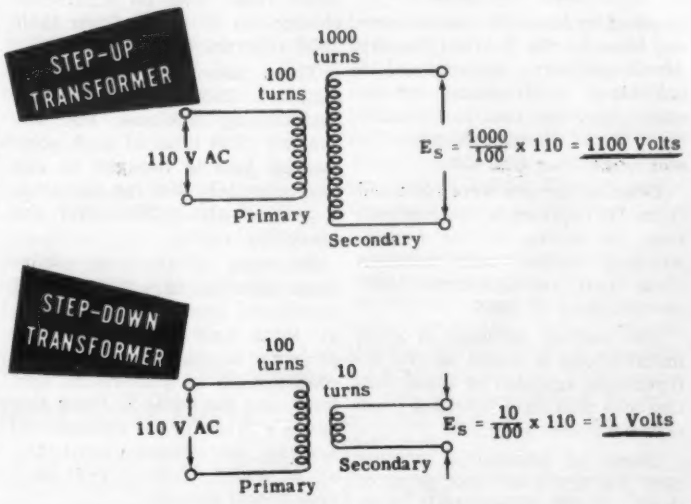
Except when currents of extremely high frequencies are flowing through a conductor, induction in straight wires can be neglected. But the self-induction of coils, especially when wound around cores of magnetic materials, can be very great. One practical effect: if the extra TV antenna in a home is coiled to save space or for neatness, it will interfere with picture reception. Lay the same length of lead out straight or at least in long loops, and inductance is reduced, interference is eliminated.

Such devices as the solenoid valve and transformer which operate off electromagnetic principles are also frequently called **induction devices.** The production of current in a secondary circuit by magnetic coupling as in a transformer is termed **mutual induction.**

file guide—ELECTRICITY: electromagnetism

Next: INDUCTION MOTORS

Transformer Types



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Top refrigeration people depend on top tubing people!

Comprehensive GM Steel Tubing facilities quickly deliver your tubing processed to slip into your production line like an eel through oil. Typical are facilities for end-processing tubing to your requirements. We can hold O.D. or I.D. tolerances to a plus or minus .0015″ by end sizing. And by swaging, your O.D. tolerances can be held as close as plus or minus .002″. You can have external beading or recessing and we can rod draw to exceptionally close tolerances. Shearing, upsetting, flattening, piercing—we do all of them expertly. Just ask a GM Steel Tubing Specialist. We're at your service. *Rochester Products Division of General Motors, Rochester, New York.*

GM STEEL TUBING
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AMERICA'S LARGEST MANUFACTURER OF REFRIGERATION TUBING

Fort Worth Residential Installations--

(Continued from page 1)

assisted in its sixth annual survey here by the Tarrant County Air Conditioning Association, 15 individual contractors, wholesalers, and the two public utilities: Texas Electric Service Co. and Lone Star Gas Co.

Detailed figures were obtained from 15 representative contractors, as shown in the accompanying tables, who between them had an estimated 1,657 installations in 1959.

The over-all estimate of 2,000 installations is based on the information supplied by these contractors plus data obtained from other reliable sources.

Gains in residential cooling over the previous year, some of them quite substantial, were noted by 12 of the 15 contractors listed in the 1959 survey. The remaining three firms indicated there was no significant change up or down from their 1958 records.

These same contractors also installed 255 commercial air conditioning systems, but the over-all 1959 total of such commercial jobs is thought to run approximately 400 for the area, a gain of about 20% over the preceding year.

Fourteen of the contractors listed also had a total of 1,867 residential heating installations, at least half of which were probably in conjunction with air conditioning as year-round systems, and the same 14 firms also noted a total of 152 commercial heating installations, virtually all of which were as part of a year-round system.

It should be noted, however, that no data on heating installations was received from one firm whose activities in this field have been substantial in the past. Also, the heating figures may not represent the true picture in the area because this survey, like the previous surveys, was aimed primarily at dealers known to be active in residential cooling.

The residential figures for the 15 contractors listed include 23 heat pumps and 70-odd gas absorption units. Commercial installations include nine heat pumps and more than 40 gas absorption systems.

How Fort Worth Residential Contractors Fared In '59

Contractor	—Residential Cooling— 1959 Total	–New Homes– Bldr.	Buyer	Exist.	Residential Heating New	Exist.	Commercial Cool.	Htg.	—Percentage of Dollar Volume— Residential Cool.	Htg.	Commercial Cool.	Htg.	Other
1	300*	130	50	120	300*	100*	10*	10*	—90%—		—10%—		.....
2	267*	....	67	200	25*	25*	....	....	85%	15%	.....	.....	.....
3	156*	72	26	58	126*	30*	39†	25†	65%	4%	25%	4%	2%
4	136*	80	16	40	120*	40*	15*	15*	65%	10%	20%	5%	.....
5	132*	57	50	25	255*	25*	2*	....	55%	40%	5%	.....	.....
6	130*	55	25	50	20†	15†	24*	....†	60%	10%	30%	.....	.....
7	90*	45	....	45	247	13	6	6	40%	40%	8%	2%	10%
8	86*	63	10	13	44*	9*	27*	22*	10%	6%	42%	12%	30%
9	69*	2	4	63	....	75	43*	7†	NA	NA	NA	NA	NA
10	66*	11	7	48	20†	23†	37*	25*	30%	3%	43%	1%	23%
11	62*	32	....	30	147*	21*	30*	30*	25%	30%	30%	15%	.....
12	56	42	8	6	NA	NA	6	NA	NA	NA	NA	NA	NA
13	47	40	....	7	40	7	4	2*	—95%—		—5%—		.....
14	30	5	15	10	40	60	12	10	55%	30%	14%	1%	.....
15	30*	10	5	15	35	5	....	....	75%	25%	.....	.....	.....
Total	1,657	644	283	730	1,419	448	255	152	.....	.....	.....	.....	.....

*Up from 1958. †Down from 1958.

44% Went Into Existing Homes

Of the tabulated 1959 residential cooling sales, 44% went into existing homes, 39% went into new homes at the choice of the builder, and 17% went into new homes at the option of the buyer.

(It should be noted that included in the 1959 listing of "new home—builder" installations are 48 central systems in an apartment building, a separate system for each individual apartment.)

A tabulated comparison of these percentages from 1954 through 1959 indicates that (1) the existing home has consistently accounted for approximately 40% of the market, (2) that the builder, starting in 1955, has accounted for a steadily increasing number of sales, and (3) there has been a fairly steady drop in new home installations made at the choice of the buyer.

The latter should not be surprising in view of the increase in speculative builder purchases because as more new homes are offered with air conditioning, there is less need for the home buyer to exercise a choice.

This situation does not necessarily prevail everywhere, however, as has been noted in NEWS surveys in other cities.

Only 2 Firms Were Solely In Residential Field

Thirteen of the contractors also provided a breakdown of their total dollar volume with respect to residential and commercial activities. Only two firms (listed as Nos. 2 and 15) indicated their activities were concentrated solely in the residential field.

Nine other firms, however, received better than 50% of

The Most Complete Line you can sell is

PERFECTION

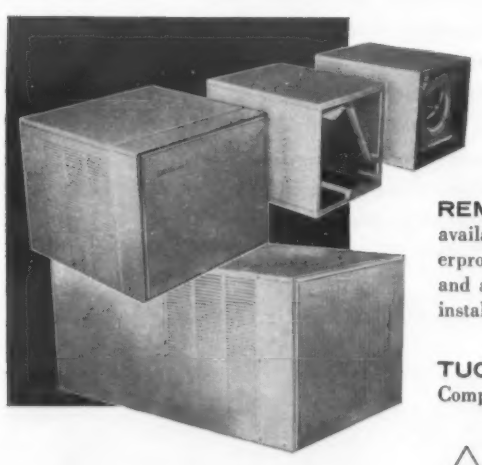
Why miss a sale because you don't have the right unit for the job? In the popular 2-ton thru 5-ton size range, Perfection offers you a wider selection of units than you'll find in any other line — types and sizes for any residential or light commercial installation — heat pumps or air conditioners — remote or package models. Compare Perfection with your present line. Think what those extra units can mean to you in extra profits.

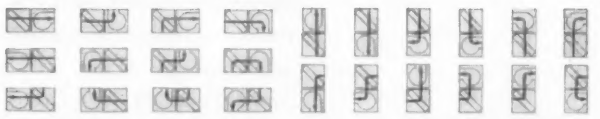
A FULL SELECTION OF AIR CONDITIONERS

REMOTE — Air cooled condensers in 2, 3, 4 and 5-ton sizes—all featuring Perfection's exclusive upflow circulation for added safety, efficiency and quietness—all weather-protected with a U. L.-approved, 2000-hour salt-spray tested finish. A complete selection of evaporators and air handlers: angle, "A", counterflow and horizontal coils; versatile horizontal and vertical evaporator-blower combinations to solve any installation problem.

TUCKAWAY — Package units in 2 thru 5-ton sizes — all with efficient air-cooled condensers, durable 2000-hour salt-spray tested finish, and double-wall construction on evaporator-blower section.

A FULL SELECTION OF HEAT PUMPS





REMOTE TRI-PAK— The most versatile heat pump you can sell, available in 3 and 5-ton capacities. Remote air-cooled condenser, with weatherproof 2000-hour salt-spray tested finish, is installed outside. Indoor coil and air handler can be combined in every conceivable manner to meet any installation requirement (12 basic combinations are shown above).

TUCKAWAY — Quickly-installed package units in 2, 3, 4 and 5-ton sizes. Compact, easily-serviced, with weatherproof, fully sound-insulated cabinets.

BE A PERFECTIONIST!

See your nearby Perfection Distributor for full information on the complete Perfection line. Ask him for the free booklet, "How to become a PERFECTIONIST." It's new, and loaded with sales tips. If you don't know him, ask us for his name.

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Perfection also manufactures a complete line of World's Fair award-winning furnaces. Broad selection of types and sizes — gas, oil or electric.

Who Buys Residential In Fort Worth

	New Homes Bldr.	New Homes Buyer	Exist. Homes
1954	4%	56%	40%
1955	29%	32%	39%
1956	32%	34%	34%
1957	32%	27%	41%
1958	35%	20%	45%
1959	39%	17%	44%

1959 Sales Compared With 1958

	1959	1958
Residential (Cooling)		
New—Builder	644	354
New—Buyer	283	195
Existing	730	449
Residential (Heating)		
New	1,419	1,993
Existing	448	434
Commercial		
Cooling	255	298
Heating	152	143

....(N.B. Data for both years based on reports of 15 contractors, except that 1959 heating sales figures were not available from one of the 15 contractors.)

their dollar volume from residential sales, while the remaining two firms noted commercial and "other" activities as providing most of their dollar volume.

In the residential field, nine contractors definitely indicated cooling sales produced more dollar volume than did heating sales. The same was probably true for two more firms (Nos. 1 and 13) who lumped these figures together. One firm (No. 7) lists equal dollar volume for both residential cooling and heating; another (No. 11) shows slightly less dollar volume from residential cooling than from heating.

Represented in all the residential cooling installations here were at least 34 different makes of equipment. There were 32 makes listed in the 1958 figures. The 15 contractors listed in the 1959 survey noted installation of 16 different makes.

In answer to a question involving distribution methods, 11 of the dealers indicated they buy their equipment from franchised distributors for the most part, while four get their's directly from the manufacturer.

All but two of the 15 contractors maintain some warehouse stock purchased in advance of sale.

The above data regarding distribution and stocking represents no significant change from facts disclosed in the NEWS survey of the preceding year, published in the April 27, 1959 issue.

There were no significant changes, either, in advertising and promotion methods used by Fort Worth contractors as compared with the previous year.

Newspaper and billboard advertising are cited first by several firms, who also noted the use of radio, television, and direct mail, and all firms devoted some expenditure to "yellow pages" advertising in the local telephone directory.

Major angle of advertising and sales closing, however, seemed to be, as usual, the ever-dependable "use the user" approach.

Shreveport Residential Heating, Cooling Contractors Form SARAH

SHREVEPORT, La. — The Shreveport Association of Residential Air Conditioning and Heating Contractors, Inc. has been awarded a charter by the State of Louisiana to serve as a non-profit trade association.

The group will use the initials SARAH. It is composed of the principal residential heating and air conditioning contractors in the Shreveport-Bossier area, according to the announcement, which also stated:

"A strong association program will be carried on which will include the following:

"A. The practical application of scientific knowledge to the selling, installation, and servicing of various heating and air conditioning equipment used by the public;

"B. To foster and protect the business interest of the members of the association by all ethical and lawful means;

"C. Cooperate with all regulatory bodies and agencies to insure safe and effective installation of heating and air conditioning equipment;

"D. The encouragement of education of the members of the craft in the economical and reasonably profitable carrying on of the trade of heating, air conditioning, and related endeavors as a business and in accordance with sound business principles;

"E. The establishment of harmonious relations between the members of the craft and their employes, architects, engineers, and public health authorities;

"F. The promotion of technical studies, education, public relations, research, and other activities of industry development."

First officers of the group are: Thomas H. Harper, president; James F. Semon, vice president; Oliver L. Brooks, secretary-treasurer; and William O. Younger and Herman L. Meyer, directors.

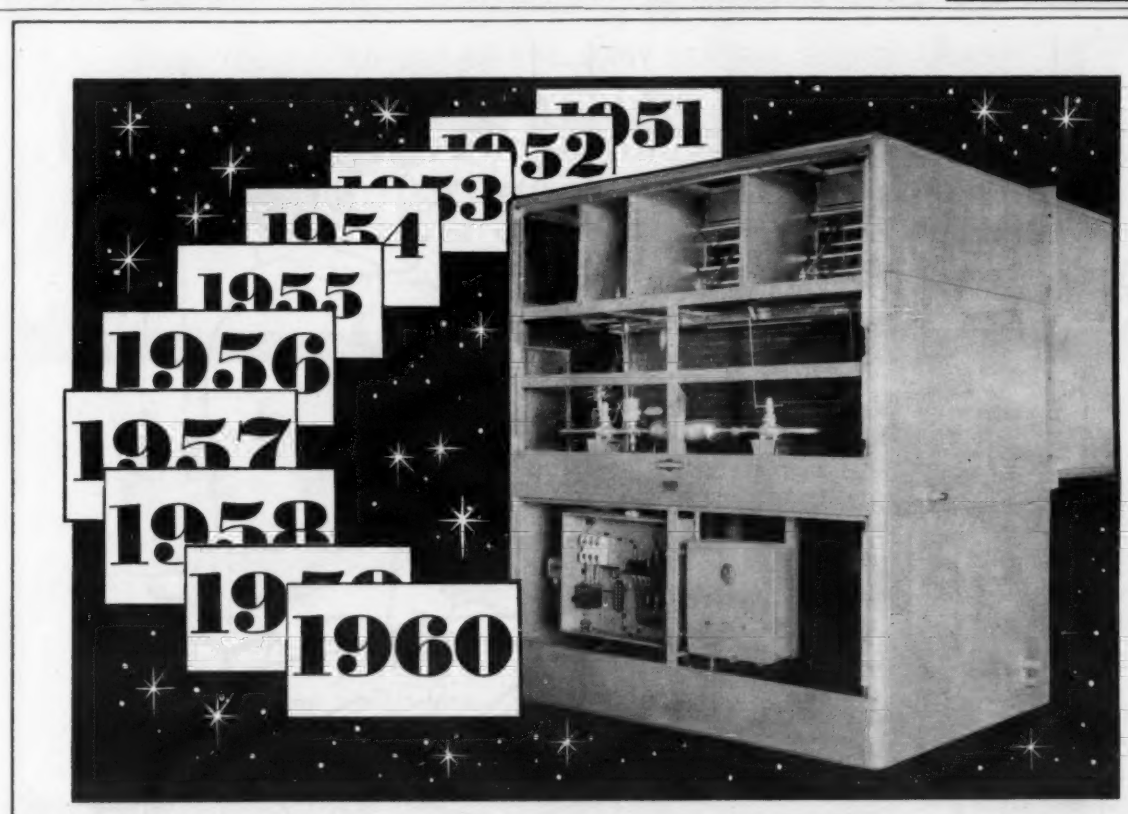
Hydronics Misses Ohio Mass Home Market

CLEVELAND — Hydronics has its appeal for those who are luxury-minded, but it has failed to attract the mass residential market in this area, according to an authoritative source at East Ohio Gas Co., here.

"Its advantages — heat storage, zone control, lower operating cost—are offset by its high first cost. A hot air furnace installed in a typical 6-room house here costs about $850. A quality hydronics installation in the same house costs about $2,200. Then there is the possible problem which arises if air conditioning is to be added—no ductwork."

Since more even house temperatures and zone control and cleanliness are still superior with hydronics, the source stated, this method of heating continues to attract those customers who are willing to pay a higher first cost for these advantages.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.



a decade of proven performance in self-contained multi-zone units

Yes, for ten years, GOVERNAIR has led the way in the engineering and development of self-contained multi-zone air conditioning units.

Both the Evaporative Condenser Package (type SCMZ) and the Water Cooled Condenser Package (type STMZ) are far beyond the pioneering stage, and have been tested and proven in actual use throughout the world, under widely-varied conditions.

Available in 8 through 100 tons, every unit is "Satisfabricated" to fit individual job zone and capacity requirements . . . assembled from the finest materials and components, then thoroughly factory-tested before delivery. For complete information, please write . .

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Why You Need Salesmen

You Must Add $50,000 To Your Gross Profit This Year To Keep Up

By Newt T. Hess, Vice President In Charge of Sales
Vorys Brothers, Inc., Columbus, Ohio

In any small business, in particular, we have problems. Particularly in a business where one man runs the entire operation . . . buying, selling, managing, running the installation, and doing all of the other things necessary.

If you are in a business of this type, if you are a one-man operation, then you are indeed in a precarious position. Suppose that tomorrow you suffer a pain in the bread-box, and you go down to the doctor, and he says you have to go home and sit on the front porch for six months, that you've got a little bit of a problem with your ticker, and you've just got to take it easy.

What are you going to do? What can you do? Leave your business for six months? Do you have someone that can take over?

Does the health of one man determine whether the doors of your business stay open or whether they close?

Now, I mention these things just as an example of the changes that may occur at any minute, through sickness, or just because we do get older and Mother Nature forces us to slow down.

Let's look at our industry as a whole. During the last few years, we have had growth pains at all levels of the industry.

It has become very necessary that the manufacturer produce in volume or he finds himself unable to meet competitive prices. To produce in volume he must have national distribution. Therefore, in the past 10 years we have seen the disappearance from the Heating Industry of the small local heating equipment manufacturer; very few remain.

Through consolidation and mergers many have become a part of large national organizations. Others have given up and liquidated voluntarily. Others have done it involuntarily. But the general trend is for the manufacturer to become much larger, both in his capitalization and in his sales.

The same thing has occurred at distributor level. Instead of the heating wholesaler carrying a few coal furnaces with round casings and the stock being limited to five or six sizes, the wholesaler must now carry perhaps as many as a hundred different models and sizes. In addition, he must stock air conditioning units and accessories. Therefore, he too, has found it necessary to put more money in the business, build bigger warehouses, just to keep up with the trend of the times.

Grow Or Die!

This same thing is true at dealer level. The retail business and air conditioning dealer must grow or he is going to go out of business.

Recently I made a study to see just how much money the retail heating dealer must make to grow 10% a year.

How much do you think you should make in profit before taxes, depreciation and your salary as an owner in order to grow 10% per year? If you are going to keep up with the air conditioning business, with the increase in population, and with your competitor, certainly 10% growth a year is an absolute minimum.

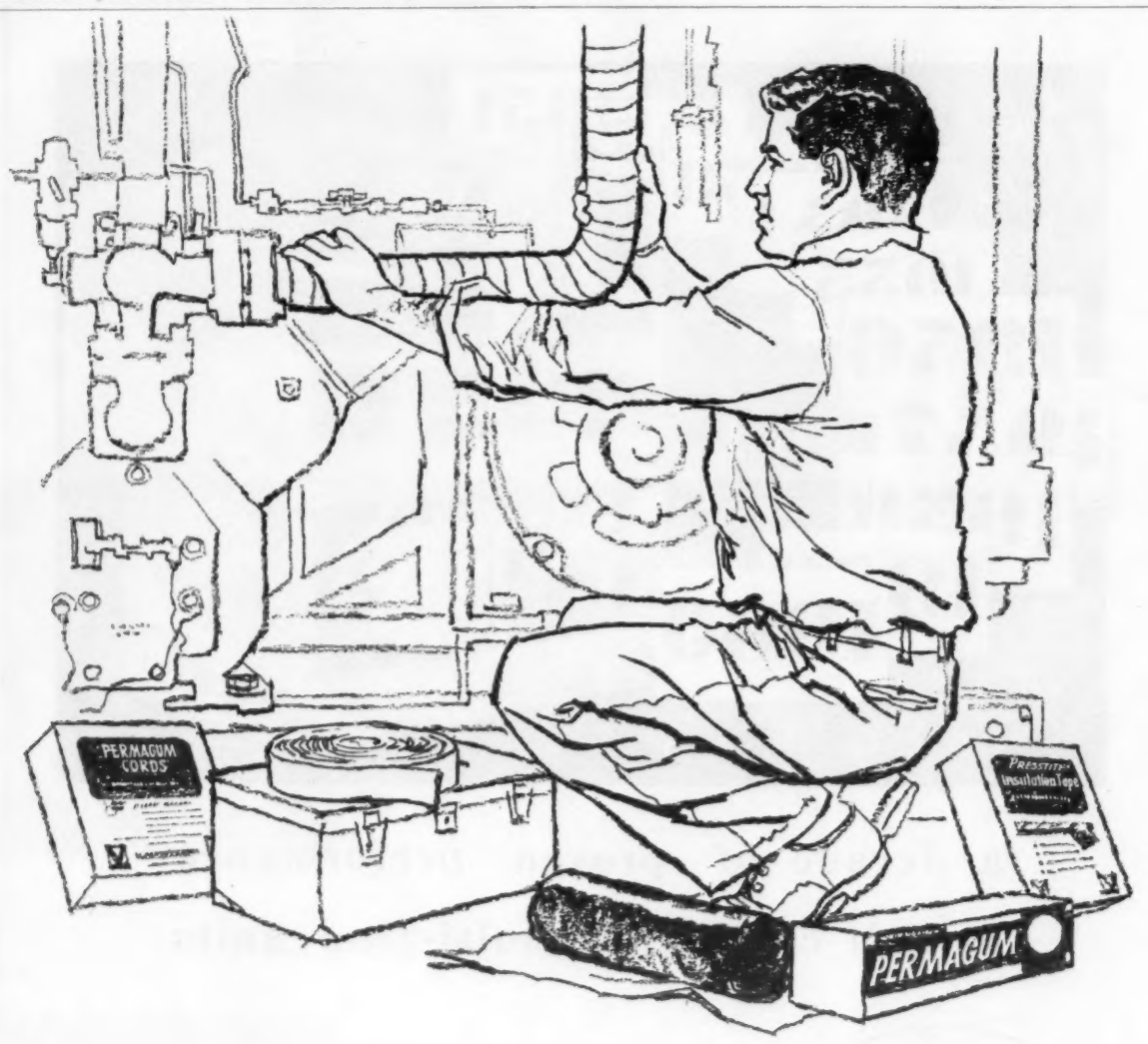
The minimum profit that you must make to keep up, to stay in business, and grow—is $50,000 per year gross profit before taxes, depreciation and the owner's salary.

It has been calculated that to make this much it would be necessary to do about a $400,000 a year gross business. If you are running this size business you, as the owner, would probably take out about $15,000 as salary. You will have $5,000 depreciation on equipment and this is extremely conservative for this size of an operation with the trucks, buildings, and machinery that you must have. You will pay $9,100 in income tax, leaving you $20,900 net

One of the features of the 46th annual convention of the National Warm Air Heating & Air Conditioning Association in St. Louis was a symposium on "How To Obtain Competent Sales Personnel."

Subjects and speakers were "Why You Need Salesmen," Newt T. Hess, vice president in charge of sales, Vorys Brothers, Inc., Columbus, Ohio; "Hiring and Compensating Salesmen," Ray F. Horan, director, Institute of Dealer Management, Janitrol Div., Midland-Ross Corp.; "Training the New Salesman," W. Edward Bogen and John Mensel, vice president and sales manager, respectively, Bogen, Inc., Columbus, Ohio.

Condensed versions of these presentations, together with questions asked of speakers and their answers, will be published in the NEWS, in instalments. The first instalment appears on these pages.



Sealing is quick, easy work—and you get a better, longer-lasting job—with "VIRGINIA" PRESSTITE PRODUCTS

In insulating a freezer, for example, "Virginia" products are particularly handy and effective. For the openings where BX cable comes into the cabinet, seal with "Virginia" Permagum Slugs. This heavy-duty sealing compound is nonshrinking, odorless, nonstaining and will not harden with age. In two colors—gray-white or brown. Available in 2½, 50 and 55-lb. slugs.

For display cases, glazed openings, and around electric wiring, Permagum cords or beaded extrusions are recommended. Just the right shape to be pressed into place. Can be painted. Cords come in two sizes: 3/16 and 3/8 in. diameters, in rolls of 80 and 20 lineal feet respectively.

To stop cold-pipe drip, use Presstite Tape for quick convenience. It sticks to any dry metal surface, is easy to apply, and never gets hard or brittle. Rolls are 30 ft. long, 2 in. wide, and 1/8 in. thick.

For bigger insulating jobs—and long-term effectiveness against condensation—use VascoCel preformed insulation. Resists acids, oil, fungus. Slips easily onto pipes or tubing. For piping already installed, slit lengthwise, slip into place and seal with VascoCel Adhesive. Fabricated in 6-ft. lengths, with ID's from 3/8 to 3 1/8 in. For full information write Refrigeration Division, VIRGINIA SMELTING COMPANY, 171 Jefferson St., West Norfolk, Va.

VIRGINIA® Chemicals

Esotoo • V-Meth-L • Can-O-Gas • VascoCel • Permagum Presstite Tape • Water Treatment Chemicals Suniso Refrigeration Oils • National Sales Agent & Repacker for Du Pont's "Freon" Refrigerants

Available in Canada and many other countries

PARTS AND SUPPLIES FOR . . . .
REFRIGERATION
AIR CONDITIONING
MOTORS
Wholesale Only
Send for free catalog!
G. & E. Equipment Supply Co.
OGDEN AT FULTON CHICAGO 7, ILL.

profit after taxes to put back in your business.

Now let's see what you will need to put into your business if you are going to increase your business just 10% this next year from $400,000 to $440,000.

First of all, this means $40,000 additional business with $40,000 accounts receivable, and you cannot possibly turn this over more than four times a year. Therefore, you are going to have $10,000 invested in accounts receivable.

You will have to buy some new shop equipment . . . perhaps a new truck . . . if you are going to increase your business by $40,000 next year. Therefore, you will have about $5,000 to spend for additional equipment.

Inflation Bites, Too

You are going to have to keep up with inflation. If you are going to do $440,000 worth of business a year you cannot possibly do this with less than $30,000 inventory in materials. With the inflation that we've had, you must provide $3,000 [more] to buy the same amount of material again next year.

And you are going to have inflation in your labor costs; you are going to have a bigger payroll. To do this additional business, plus keeping up with what you are already doing, you will have to put $2,800 more into inventory and payroll.

Added up, this comes to a total of $20,800 more than you will need in your business.

So you are just going to come out even if you make a gross profit this year of $50,000 before taxes, depreciation and your own salary.

Now, you say that this isn't possible . . . in fact, that it is impossible. Many of you don't operate that size business. And you can't make that kind of money—$50,000 a year before taxes, depreciation, and salary.

Then what is the answer?

The only answer that I know, and the only one I would venture at all is that you grow as quickly and just as fast as you possibly can with the finances you have available.

Growth must be your number one concern. Because like the manufacturer and the wholesaler the heating and air conditioning dealer must grow or go out of business.

Invest In Equipment

I have noticed that many people in the heating business during the past few years have spent a lot of money modernizing their shops, putting in equipment with which to make things faster. That's absolutely necessary if you're going to stay in business and keep costs down.

I have also noticed that many dealers are being pretty lavish on spending money on themselves. I've seen a good many Cadillacs, and country homes, and boats, and so on. And it's wonderful if you can really afford that kind of life in this business.

But Invest In People, Too

But I want to point out that although you spend money for equipment, you also have got to spend money for *people* in this business.

You have got to develop an organization to handle your growth. If you don't develop the organization, you won't grow.

Which comes first?

I think they probably come together. You build an organization . . . in order to build a business. When that organization, through better selling, brings you more profit, then you can continue building this organization with still more people, with still more profit, and up you go on an established growth pattern.

Let's take a look and see what we need.

You have but few choices. You can hire someone to help you in the office. You can hire someone to supervise the men. Or, you can hire someone to help you sell.

What you really need is a man who can develop so he can do any or all of these things.

Unquestionably then, the place to start a man is in the selling end of the business. Because a good salesman soon learns all phases of the organization. He stands at your elbow all the time. And if you want to do more business, there is the place to start.

(To Be Continued)

Shopping Cart Speeds Service

ADOPTING SUPERMARKET techniques, Stock Clerk Eddie Hopkins pushes a shopping cart through the aisles of the new Fairfax, Va. branch of Thos. Somerville Co., Washington, D. C. parts and supplies wholesaler. Here he selects from shelves stocked with welding fittings and flanges made by Tube Turns Div. of Chemetron Corp. Somerville reports customer service efficiency has increased noticeably since using shopping carts to fill orders.

MORT CLARK'S **GALV-WELD** ALLOY ORIGINAL & GENUINE

Solves corrosion problems in outdoor cooling towers, ductwork, etc. Dominate your market by selling trouble-free, all-galvanized structures with Galv-Welded joints. Write for details. Free sample.

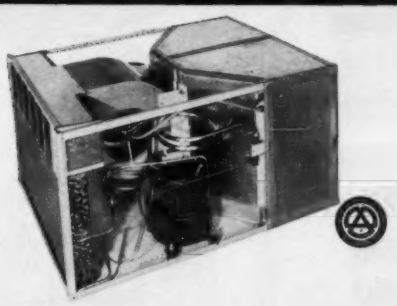
GALV-WELD PRODUCTS
Dept. ACHRN
P.O. Box 1303
Bradenton, Florida

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

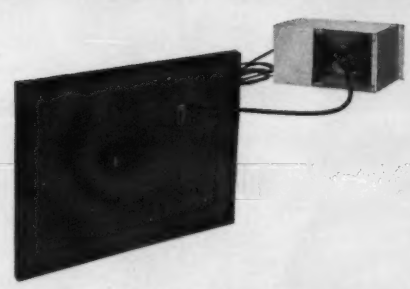
ARE YOU PRICED OUT OF TOO MANY CENTRAL SYSTEM SALES?

MEET COMPETITIVE PRICES PROFITABLY WITH THIS EXCLUSIVE COOLERATOR PROGRAM!

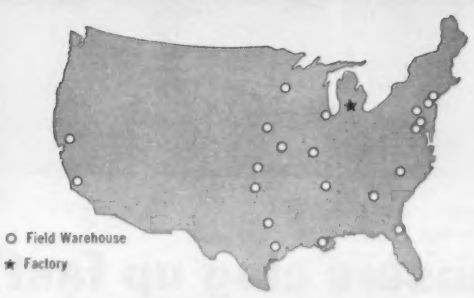
. . . AND GET THE QUALITY YOU WANT, TOO!



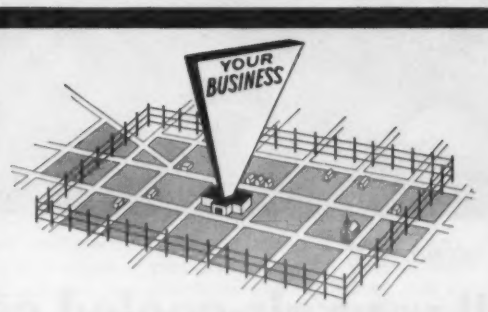
1. QUALITY PRODUCTS! You can meet competitive prices and still sell top quality with Coolerator. Careful engineering, and precision assembly cut service calls and assure complete customer satisfaction. Actual service records show Coolerator equipment ranks at the top of the industry for dependable performance.



2. FEATURES THAT SELL! You have plenty to talk about when you sell Coolerator. For example, the amazing Lectrofilter®—a genuine electrostatic filter unit with unbelievable low price! Exclusive Permalife finish. Double drain systems. All-Welded steel cabinets. Exceptionally quiet operation and others!



3. DIRECT FROM FACTORY PURCHASING! This assures competitive prices . . . with much higher grosses! Moreover, you can work with minimum inventories because of Coolerator's nation-wide system of field warehouses. And strategically-located factory authorized service depots give fast service on parts when needed!



4. PROTECTED TERRITORIES! To insure higher sales volume and top profits, Coolerator gives you territory protection. You can develop your market potential by selling Coolerator quality and features—and still meet competitive prices profitably! Mail the coupon below today for complete information!

Coolerator's Profit Line includes Self-Contained Units, Remote Units with Matched Coil Blowers, A Coils and Horizontal Coils and Heat Pump Models for Both Self-Contained and Remote Installations

COOLERATOR DIVISION

Albion, Michigan

PRODUCTS OF McGRAW-EDISON

McGRAW-EDISON COMPANY

In Canada: 574 Fourth Line, Oakville, Ont.

COOLERATOR DIVISION, DEPT. CC-37
McGraw-Edison Company, Albion, Michigan

Please send complete information on Coolerator Central Air Conditioners and the 4-Point Profit Program.

Name_____

Company_____

Street_____

City_____ State_____

If You Work at It

Publicity Can Help You Sell

By Norman Reitman, Advertising and Sales Promotion Mgr., Typhoon Air Conditioning Div., Hupp Corp.

The air conditioning dealer casting about for ways to find new customers and to enhance his reputation as a competent practitioner of his profession may be overlooking the situation in which he will find potential customers most response—when they are reading their newspapers.

There is no better way to promote your company and its services than through the editorial pages of your local newspaper and other publications. Your name and the name of your company in the paper will go a long way toward establishing you as one of the leaders in your industry in your area.

Publicity often produces sales leads directly. More often, it will establish your organization as one of the significant sources of the service you offer—a company that should be called in before any contract is signed.

With thousands of pages to fill each year, your local newspaper is eager to tell its readers about your company and its activities. Editorial space is available for those who have a story to tell. The only requirement is that what you have to say is really news—something that will interest a portion of the newspaper's readers.

The definition that distinguishes between advertising and publicity by saying that you pay for ads and publicity space is free is not exactly true.

Obtaining publicity requires as much time and effort in planning and doing the work as preparation of good advertising. The results are, however, almost always worth the effort.

When a newspaper, acting as an impartial reporter, tells of your activities, it is even more convincing than if you were speaking yourself.

What Makes News?

If your company is typical, you have many opportunities to create publicity. Here are a few:

—Anniversaries of company, principals, or long term employes.

—New building or radical changes in the old.

—Accomplishments in sales or products.

—Talks or speeches by company personnel.

—Visits by groups or associations.

—Promotions of personnel.

—Employes who perform interesting civic services.

—New equipment or facility acquisitions.

—Trends in sales.

—Bids or awards, contract signings.

—Attendance at sales conventions or trade shows.

—Showings of your new products.

—A new slogan or company symbol.

How To Get Publicity

If what you are doing is news, it is easy to get publicity. If you advertise in your local newspaper, ask the representative who contacts you for the name of the person to contact in the editorial department. Or call the business editor of your local paper. Larger papers have real estate editors who are interested in plans to air condi-

(Continued on next page, Col. 3)

Sample No. 1

From: Harrison P. Dealor
Phone: UPtown 8-6000

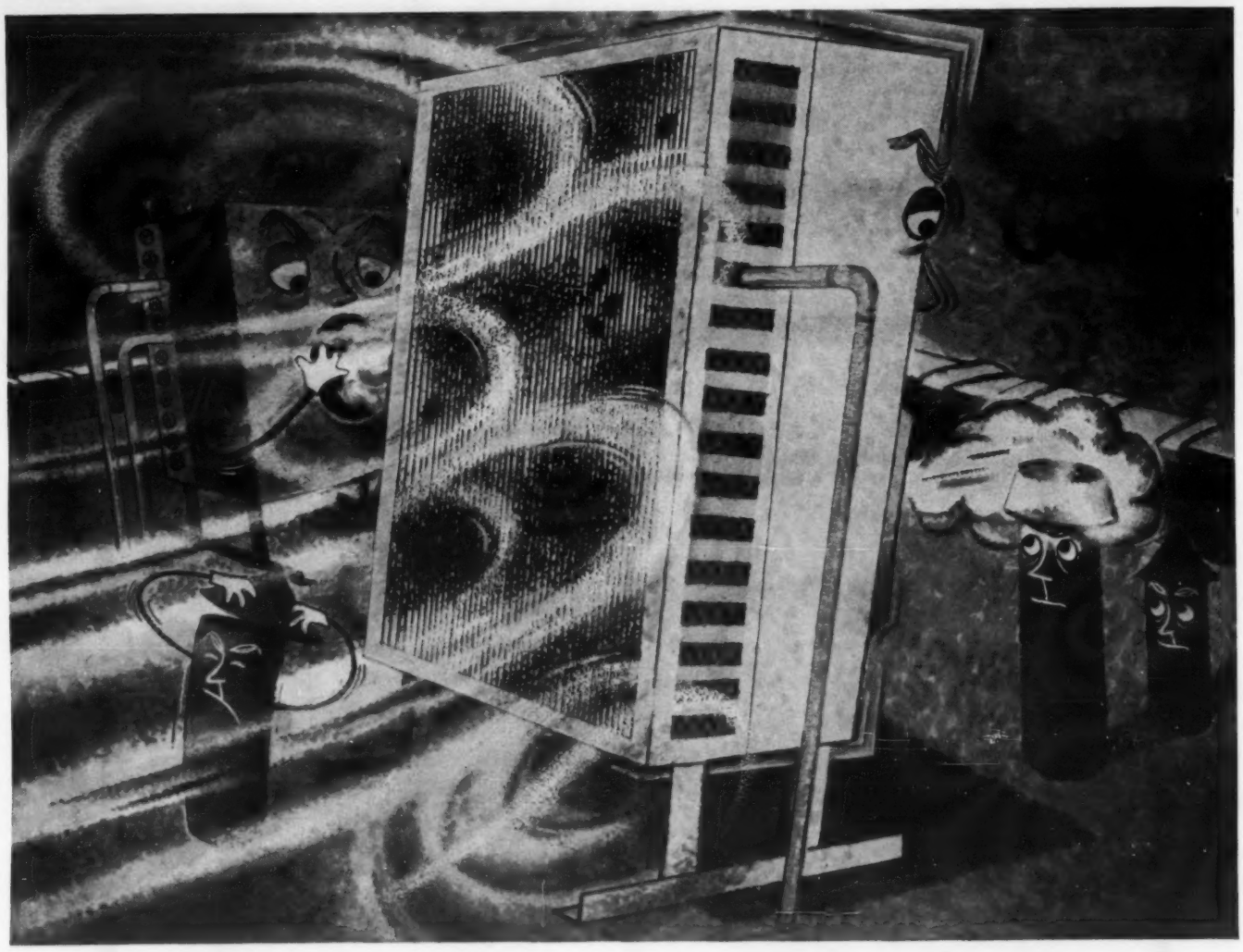
ELTON STREET STORE TO USE 40 TONS OF AIR CONDITIONING

The new Night-Owl Supermarket to be built at 8640 Elton St. will be fully air conditioned with equipment totaling 40 tons' capacity. The HP Dealor Co. has been awarded a contract to install the air conditioning which will consist of four "packaged units" made by Typhoon Air Conditioning, Div. of Hupp Corp.

The new store is the fourth Night-Owl Supermarket to be built in this area. All of them are fully air conditioned. According to Mr. Dealor, the new system is designed to provide full capacity cooling and customer comfort even on the hottest days of the year. Units will be mounted on the roof of the new building, out of the way of customer service. The air conditioning will be fully automatic in operation.

Building of the store, which was announced last month, will begin in April. It is expected that the store shall open in July.

The HP Dealor Co. is a dealer for Typhoon Air Conditioning and installs complete air conditioning systems in commercial and industrial establishments throughout the state.



BEFORE YOU BUY, THINK!

Will your air-cooled condensers clog up fast?

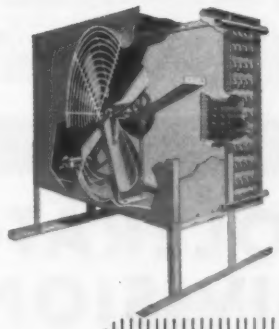
Not if they're H & M condensers with wide fin spacing

All Halstead & Mitchell air-cooled condensers and finned coils come with fins spaced wide to prevent clogging. Their exclusive Turbu-Flo fin design keeps your maintenance costs down, and improves heat transfer up to 15%.

H&M's fins are streamlined, embossed to bring about better air "wash." Since turbulence decreases resistance to heat flow through the air film, heat exchange is greater.

Finned coils come in a wide range of types and sizes: standard and non-freeze steam coils; direct expansion coils with pressure-type distributors; chilled or hot water coils. All Halstead & Mitchell coils are available from 1 to 8 rows deep, with finned heights of 12 to 36 inches, in lengths up to 10 feet.

You can order H&M air-cooled condensers in capacities of 3 to 100 tons. Be sure to specify H&M finned products from your local distributor. Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.



H&M AIR-COOLED CONDENSER WITH WIDE FIN SPACING

HM Halstead & Mitchell

Finned Coil Products • Air-Cooled Condensers • Water-Cooled Condensers • Cooling Towers

Westernaire IS UNFAIR TO OTHER MANUFACTURERS

We build private brand air conditioning and refrigeration equipment for several hundred accounts, better and at less cost than they can do it for themselves.

"Why don't you get the whole story?"

WESTERN SUPPLY CO.
Contract Manufacturing Div.
315 West Third Box 784
HUTCHINSON, KANSAS

Sample No. 2

AIR CONDITIONING DEALER PREDICTS HOT SALES YEAR

The air conditioning season, just ended for most of us, is now beginning for Harrison P. Dealor, president of Harrison P. Dealor Co., 312 Main St.

Mr. Dealor has just returned from a sales conference initiating the 1960 air conditioning year in Washington, D. C. The conference was held by Typhoon Air Conditioning Div. and Typhoon Heat Pump Div. of Hupp Corp., whose products Mr. Dealor installs and services.

According to Mr. Dealor, the air conditioning year which he predicts will be the best yet, starts in September because once a decision to air condition is made, it takes several months to get ready for hot weather.

He said that an increasing number of homeowners and owners of commercial and industrial establishments have discovered the wisdom of making plans during fall and winter months. This is particularly true of people who install complete systems.

Hot weather period is actually Mr. Dealor's slow season. Most of his company's efforts during July and August are devoted to servicing air conditioners rather than installing them.

Mr. Dealor said that the air conditioning year just ended was the best in the history of the industry. Sales of factory-assembled packaged units ranging in size from 3 to 75 tons' air conditioning capacity, went up 40% over the previous year.

Increases in the number of heat pumps installed was even more phenomenal, up over the previous year. A heat pump is a type of air conditioning equipment that provides both heating and cooling, switching from one to the other automatically as the weather requires it.

The two Typhoon companies whose sales conference Mr. Dealor attended, are among the leading manufacturers in the air conditioning industry. Typhoon Air Conditioning Div., in Brooklyn, manufactures complete air conditioning units, Typhoon Heat Pump Div., Tampa, manufactures heat pumps.

(Continued from preceding page)

tion, contract awards, and similar news.

Better still, write down the facts under your letterhead and take it or mail it to the newspaper's editorial department. Don't bother to tell how good you are; your name in the paper will prove that your company has some worth; concentrate on telling the facts of the story.

Don't Overlook Your Chamber of Commerce

Don't overlook your local Chamber of Commerce publication and local trade association publications. They are hungry for news, too. Call them or write them at the same time you call or write the newspapers.

Although the list of occasions can be used to get publicity for your firm is long, new contracts and your own activities will be the most frequent occasions. Naturally, you will want to check with your customer before seeking publicity on an installation.

On these pages are a couple of samples of "releases" to newspapers and other publications that can get you good publicity.

Carrier Flies 500 to Nassau for Vacations

NEW YORK CITY — Five hundred vacationists—U. S. air conditioning equipment salesmen and their wives—flew to Nassau by Pan American World Airways recently.

The visitors were Carrier Corp. distributors, dealers, and salesmen and winners of sales incentive contests sponsored by Carrier.

Some 300 of the vacationists arrived aboard regular Pan Am flights from Miami. The others flew by special Clippers from Chicago and Dallas. The group spent five days in Nassau.

York Promotes Krause To Merchandise Post

YORK, Pa.—Albert J. Krause has been named merchandise manager, commercial air conditioning, by the York Div. of Borg-Warner Corp.

A. J. Krause

He has been employed by the firm since 1952. After completing York's college graduate training program, he has served as industrial engineer, quality control engineer, and a member of the Product Design Engineering Dept.

Krause will be responsible for sales planning and application of many of York's expanding line of packaged commercial air conditioning products, according to the announcement.

NEW

TAMPER PROOF TUBE PIERCING VALVE

MADDEN HP-41A

No handle discourages tampering. Operated by Allen wrench.

- Easiest to use, all in one piece
- V-block and lock nut combined in one unit
- Mounts in any position
- Cuts installation time

General Purpose VALVES

New Madden Forged Brass Body valves for testing, charging, purging and other uses. Also available for panel mounting. Feature easy-grip handles and Teflon seats for positive shut-off.

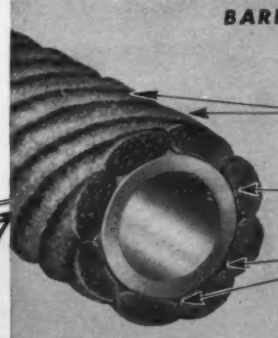
See your MADDEN *Wholesaler*

MADDEN BRASS PRODUCTS COMPANY
AURORA 6, ILLINOIS, U.S.A.
EXPORT: Ad Auriema 80 Broad St., New York, N. Y.

Are You Paying Premium Prices For Your Pipe Wrapping?

Compared With Thin, Non-Corrugated Wraps, NoDrip Tape Gives You Double Protection At Half The Cost!

THREE INSULATING BARRIERS *in* NO Drip® TAPE



1. OUTSIDE
Rough surface prevents free circulation of moisture-filled air—creates dead air barrier.

2. ¼-INCH THICKNESS
Built-in moisture barrier assures utmost insulating efficiency.

3. INSIDE
Dead air is trapped between "corrugated strands", forms added insulation barrier.

NoDrip Tape means more profit and customer satisfaction on every job . . . saves you time, labor and material. NoDrip Tape eliminates most multiple wrappings needed with thinner wraps . . . inferior wraps.

Why pay more when you can buy the handy 16 foot roll of ¼" thick NoDrip Tape at less than the cost of a roll of ordinary ⅛" wrapping?

Next time an equipment cold line job calls for *permanent* protection against condensation drip, "sweating" or frost, insist on using NoDrip Tape. Stops rust and corrosion, too . . . holds temperatures more constant and increases the efficiency of the cooling equipment.

NoDrip Tape is pliable, cork-filled and completely self-adhering. Easy to work with . . . forms an air-tight, 100% vapor and moisture proof jacket. Needs no tools, vapor seals, fasteners, brads or adhesives.

NO DRIP PLASTIC COATING... PROTECTION FOR BIG AREAS

For large pipes, tanks, air ducts, we recommend NoDrip Plastic Coating for permanent protection from condensation, rust and corrosion. Another fine Mortell refrigeration product, NoDrip can easily be applied by brush or trowel to metal, concrete, brick, plaster, tile or composition surfaces.

Easy to Apply...
EVEN AROUND JOINTS, TEES, VALVES OR ANGLES

Mortell COMPANY
Makers of Mortite Caulking Cord and Mortite Caulking Gum

J. W. Mortell Company, Dept. 3
549 Burch St., Kankakee, Ill.
O.K.! Send me full information about the complete line of Mortell refrigeration products.

I'm a Jobber____ Dealer____ Serviceman____
Name____
Firm____
Address____
City____ State____

Harry Alter Co. Issues 240-Page 'Dependabook'

CHICAGO—The 1960 spring edition of the Harry Alter Co. "Dependabook" has been published and is now available to the refrigeration and air conditioning trade throughout the world, the company announced.

The new catalog consists of 240 pages of parts and supplies, including many pages of general information on such subjects as compressor wiring terminals, starting relay coding, and a new greatly expanded index, it was pointed out.

On the cover of the new Dependabook is a full color reproduction of a painting by the famous French master, Paul Cezanne. This will be the first of a series of such covers featuring well known masterpieces of the world, it was stated.

The company has announced that it will make available free copies of these covers, suitable for framing or collecting, to anyone desiring them.

Reference Chart Shows Full Line of Typhoon

BROOKLYN — A reference chart showing the full line of Typhoon Air Conditioning Div., Hupp Corp., is now available, it was announced.

The chart lists 136 air conditioning products and 49 gas and oil-fired furnaces. These products are only the "cataloged" units and do not take into account the hundreds of factory and field adaptations possible with Typhoon equipment, according to the announcement.

A copy of the reference chart may be obtained by writing Typhoon Air Conditioning, 505 Carroll St., Brooklyn 15, N. Y.

Furnas Electric Offers Motor Control Catalog

BATAVIA, Ill.—Furnas Electric Co. announced that it recently published a 72-page motor control catalog 5900 that provides a condensed but thorough listing of general products, some of which are new within the last year.

Special "Quick Selector" charts for magnetic and manual starters give horsepower, motor speed, heater size, heater ampere ratings, enclosure choices, along with style numbers and list prices in one easy-to-read table, it was pointed out.

The new catalog contains descriptive copy, design data, stocking information and complete ordering instructions for manual starters, magnetic controls, drum controllers, pressure switches, various pilot devices, and other motor control products and accessories.

Copies of the catalog can be obtained by writing Furnas Electric Co., 1111 McKee St., Batavia, Ill.

H&M Catalog Discusses Air-Cooled Condensers

PITTSBURGH — A new air-cooled condenser catalog (Bulletin AC-102) presenting a thorough analysis of these devices from the twin standpoints of "specification" and "application" is available from Halstead & Mitchell, Bessemer building Pittsburgh 22, Pa.

Four types of units are discussed in detail—those using propeller fans for horizontal air flow, propeller fans for vertical air flow, centrifugal fans for use with ductwork, and centrifugal fans for residential air conditioning.

New D-H Catalog Covers Air Conditioning Lines

LOS ANGELES — Drayer-Hanson has announced publication of its new 1960 catalog devoted to solely air conditioning products.

It is being released to interested architectural, engineering, contractor firms in conjunction with the firm's 50th anniversary celebration, now under way.

According to Sales Manager Irvin Secord, this catalog introduces a complete line of new high-pressure air-handling units, ranging from 0 up to 8 in. total static pressure. In addition, the catalog details the new SCD air-handling line for complete humidity control, initially offered in nine sizes.

The regular line of "Perma-Fan" evaporative condensers, room-by-room air conditioners for remote or ceiling suspension (LRC and HRC) and console (VRC) types, "Flexazone" air conditioners for independent/variable year-round temperature control, single-zoned HSV and CSV-Series air-handlers, air-cooled condensers, and other established air conditioning products round out the 221-page publication.

Copies of the catalog may be obtained from the Catalog Publications Section, Drayer-Hanson Div., Crane Co., 3301 Medford St., Los Angeles 63, Calif. Queries should be made on letterhead-addressed stationery, the announcement pointed out.

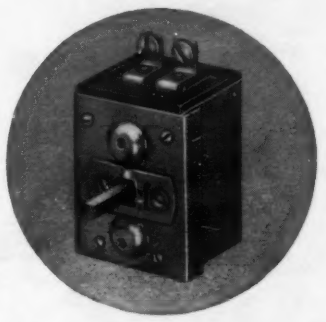
Automatic Reels for Hose, Cable Described

EL DORADO, Ark.—Automatic reels for hose and cable are described in a new catalog folder issued by United Specialties, Inc., P. O. Box 698, El Dorado.

These reels coil up hose and cable by spring action when work is stopped. They can be mounted on floor, wall, or ceiling, or on mobile installation, and are adjustable in any desired position when not in use, it was noted.

"WILCOLATOR G1 THERMOSTAT GIVES US close control without waste of space"

. . . says Morris Markel, Chief Engineer, Markel Electric Products, Inc.



Wilcolator Type G1, a single-pole, remote bulb liquid expansion thermostat, is used in Markel baseboards.

"Compact Wilcolator G1 thermostats fit snugly into baseboard heating modules. They measure only 2¾ x 1⅝ x 1⅞ inches. And they give close temperature control that conventional thermostats simply don't offer." So reports Mr. Markel, a man who knows thermostats. Other advantages include snap-action, vibration-proof contact mechanism, positive Off position, and no TV or radio interference.

Wilcolator Type G1 is the ideal thermostat for many heating applications. Write for complete details.

Temperature range: to 585F or more

Dials: standard or special dials, pointers and chrome bezels available

THE Wilcolator COMPANY

Thermostats for Every Heating and Cooling Application

THE WILCOLATOR COMPANY
1001 NEWARK AVE., ELIZABETH, N.J.

Subsidiaries and/or Affiliates in Canada, Great Britain, Italy, Western Germany and Australia

NEMA

WELCOME!

Oil Heat and Air-Conditioning Conventioneers to your meeting at the Coliseum April 4-7, 1960

Headquarter at the Henry Hudson Hotel

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NEW YORK CITY

Handy & Harman Bows Packaged Self-Study Course In Silver Alloy Brazing Principles, Techniques

NEW YORK CITY—A packaged, self-study training course in the principles and techniques of silver alloy brazing has been developed by Handy & Harman, a pioneer company in silver brazing techniques and supplier of silver brazing alloys.

The course comes complete in a single package containing three comprehensive textbooks and all parts, materials, and supplies needed to perform lesson exercises, according to the company.

Particularly Useful For In-Plant Training

The firm said the course should be particularly useful to manufacturers for establishing in-plant brazing classes. The course should be of special interest to personnel and training management and to production, repair, and maintenance supervisors in the metalworking and refrigeration industries, where silver alloy brazing has become such an increasingly important joining technique, the company said.

Based on Curriculum Of 3-Day Brazing Class

"The course is based upon the curriculum of the three-day brazing class which has been conducted monthly by the Handy & Harman Training Div. for over 13 years," it was pointed out. "Nearly 2,500 trained brazers have graduated into industry from this class. Similar in-plant courses established and conducted by Handy & Harman personnel during the last two decades have trained over 50,000 persons in the fundamentals and techniques of silver alloy brazing."

3 Sections of Course

The training course consists of three sections. First, six lessons explain the fundamentals of silver brazing. The second section presents nine actual exercises to be performed on the basic types of joints in both flat or tubular members and employing similar or dissimilar metals.

Section three translates these principles into production techniques. It discusses such problems as alloy selection, design for assembly and pre-placement, pre-form development, preparation of parts, and heating methods and equipment.

All parts, brazing alloys, fluxes, and other materials needed to complete the exercises, as well as all three texts in a single loose-leaf binder, are packed in a single 12-in. by 12-in. by 2-in. heavy cardboard box. In addition, the Handy alloy calculator for determining the amount of alloy required for a given joint, and a pocket-sized fundamentals "reminder card" are enclosed to serve the student as handy permanent on-the-job reference.

Each Silver Brazing Training Course is priced at $25, f.o.b. New York. Where in-plant gas is not available, an accessory torch tip suitable for use with hand-held gas cylinders will be included for an additional $4.95, according to the firm.

For additional information about the course, write Training Div., Handy & Harman, 82 Fulton St., New York 38, New York.

Student performing one of the nine exercises in the new Handy & Harman packaged Silver Brazing Course. All parts and supplies necessary to complete the course are shown resting on the 12 by 12 by 12-in. box in which they are packed along with the course textbook. Where in-plant gas is not available, a torch tip suitable for use with hand-held gas cylinders can be included at slight extra cost.

National Controls, Kingston Merge

MEDFIELD, Mass. — National Controls, Inc., which has for a number of years supplied complete systems of temperature and humidity controls for air conditioning, heating, and ventilating in both the commercial and industrial fields, recently merged with Kingston Industries, Inc.

Its future activities, which will be conducted on an expanded basis, will be operated as a division known as Kingston-National Controls, according to R. W. Moulton, president.

REPRINTS
SELLING FOR PROFIT.
By Frank Klein—Only $1.00 ea. Clip this ad and mail with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.

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HERMETIC COMPRESSOR OPENER

AUTOMATICALLY OPENS ANY HERMETIC COMPRESSOR REGARDLESS OF THE POSITION OF THE WELD

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JUNIOR MODEL
Automatically opens any Hermetic Compressor up to 14" in diameter. **$397**

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862 Newark Ave., Jersey City 6, N. J.

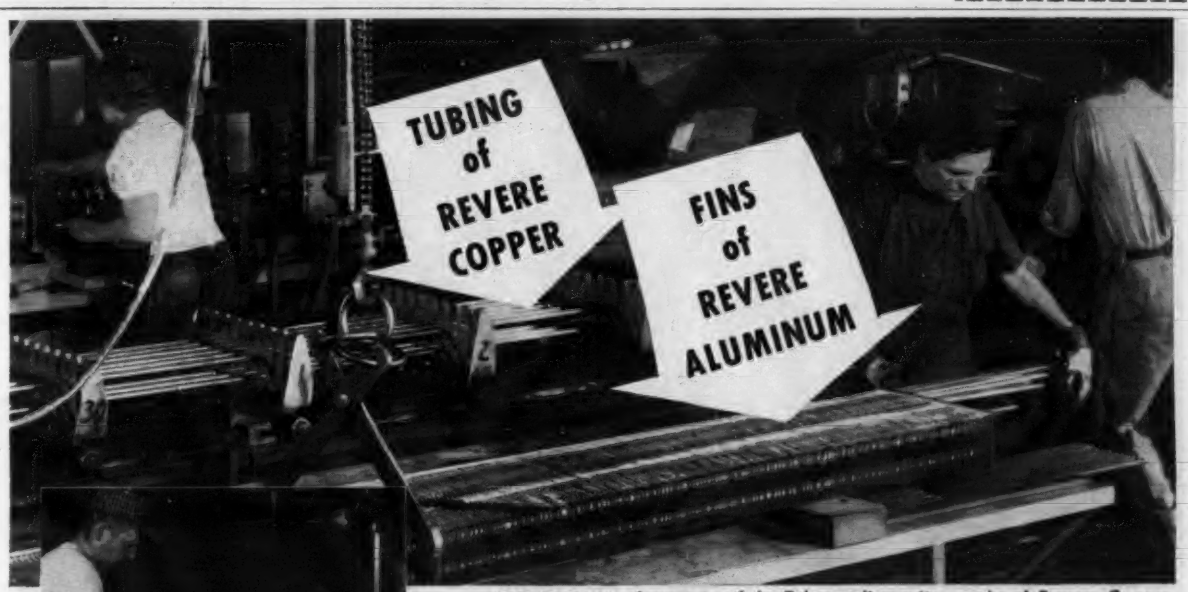


PHOTO ABOVE shows one of the Tyler cooling units, made of Revere Copper Tubing and fins of Revere Aluminum, in the final stages of assembly.

MIDDLE PHOTO shows completed condensing unit in place in one of the Tyler Refrigerated Sales Cases. Revere also supplies aluminum sheet in plain and embossed finish for miscellaneous cabinet trim and structures.

BOTTOM PHOTO SHOWS one of the newest Tyler Sales Cases installed in a modern super-market. Tyler, a pioneer of important improvements in this type of equipment, makes units for every type of perishable food and for every store need.

A combination that produces superior commercial refrigerators for TYLER customers –

fresher, more palatable foods for your table

Because of its distinct, money-saving advantages the combining of aluminum fins with copper tubing has been rapidly growing. But this very combination also calls for care in assembly as well as care in the manufacture of the aluminum sheet and copper tube.

That's why Tyler Refrigeration Corporation, Niles, Michigan, tells us they use Revere Aluminum Sheet and Revere Copper Tubing in fabricating coils for their Commercial Refrigerated Sales Cases.

For, in addition to the uniform wall thickness and close, even grain structure which permits bending without distortion, Revere Copper Tubing is readily brazed or soldered, thus making it easy to put on return bends. And, since copper expands so readily it assures a tight fit with the aluminum fins.

Add to this, the accuracy of gauge of the Revere Aluminum Sheet and its lightness, plus the conductivity properties, the non-rusting qualities and ease of fabrication of both copper and aluminum and you have an efficient, economically operating cooling unit.

In on the ground floor, Revere, because of its many years of intimate knowledge of both copper and aluminum is qualified to assist manufacturers of refrigeration, air conditioning and heating equipment in their development, with gratifying results.

Why don't you take advantage of this accumulated knowledge and consult with Revere's Technical Advisory Service on *your* problems?

REVERE COPPER AND BRASS INCORPORATED
Founded by Paul Revere in 1801
230 Park Avenue
New York 17, N. Y.

Mills: Rome, N. Y.; Baltimore, Md.; Chicago, Clinton and Joliet, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Brooklyn, N. Y.; Newport, Ark.; Ft. Calhoun, Neb. Sales Offices in Principal Cities, Distributors Everywhere.

Keep Your Windows Dry

Helping Homeowners Solve Moisture Problems Uncovers New Source of Revenue for Alabama Heating Contractor

BIRMINGHAM, Ala. — Pay dirt has been struck with a new service offered by Conditioned Air Service Co., heating and air conditioning concern here.

More or less by accident, this concern found that a good demand exists for some service which will eliminate an over abundance of moisture in the home which causes windows to "fog up" and clothing to mildew.

H. R. Sullivan, proprietor, thinks he has found the solution in a service which he advertises and sells with a money-back guarantee. He admits that what he does is simple, that is, install a fresh air duct in the forced air heating system, and place a plastic covering (polyethelene) over the ground under the house.

H. R. SULLIVAN, proprietor of Conditioned Air Service Co., exhibits a roll of the plastic covering which he applies to the ground under houses to keep moisture from rising into the home.

The latter keeps moisture from rising from the ground and creeping up by capillary attraction or otherwise into the house. The cooler air injected into the heating system provides additional circulation and helps retard moisture accumulation from internal sources.

For this service Sullivan makes a charge on the average installation of $80 to $100, a charge which most homeowners seem to think is "reasonable if you can eliminate the moisture accumulation on our windows."

The charge for laying the plastic covering on the ground runs 5 cents a square foot. The material comes in large rolls and is easy to apply.

"I had no idea until I began advertising this service that so many people are bothered with moisture in their homes," said Sullivan. "Some homeowners complain that their windows not only fog up but the plaster walls also become damp. Clothes and shoes in the closets mildew.

"Women with picture windows in their home particularly dislike the moisture accumulation. Sometimes they have to use towels to keep the accumulation of water from dropping on the floor. This increases their laundry bills and is a general nuisance."

Sullivan said that the better houses were built and more closely insulated the worse the moisture problem and consequently the more need for the service which he renders.

Oftentimes the need is worse in new houses until the woods and other materials used in the construction completely dry out. The service is also needed in the summertime as well as in the winter.

Sullivan, who sells General Electric equipment, figures that his new service gives him some advantage over his competitors in selling regular heating and air conditioning jobs. Being an expert in "moisture control" in an area where the rainfall is heavy fills quite a need, he says.

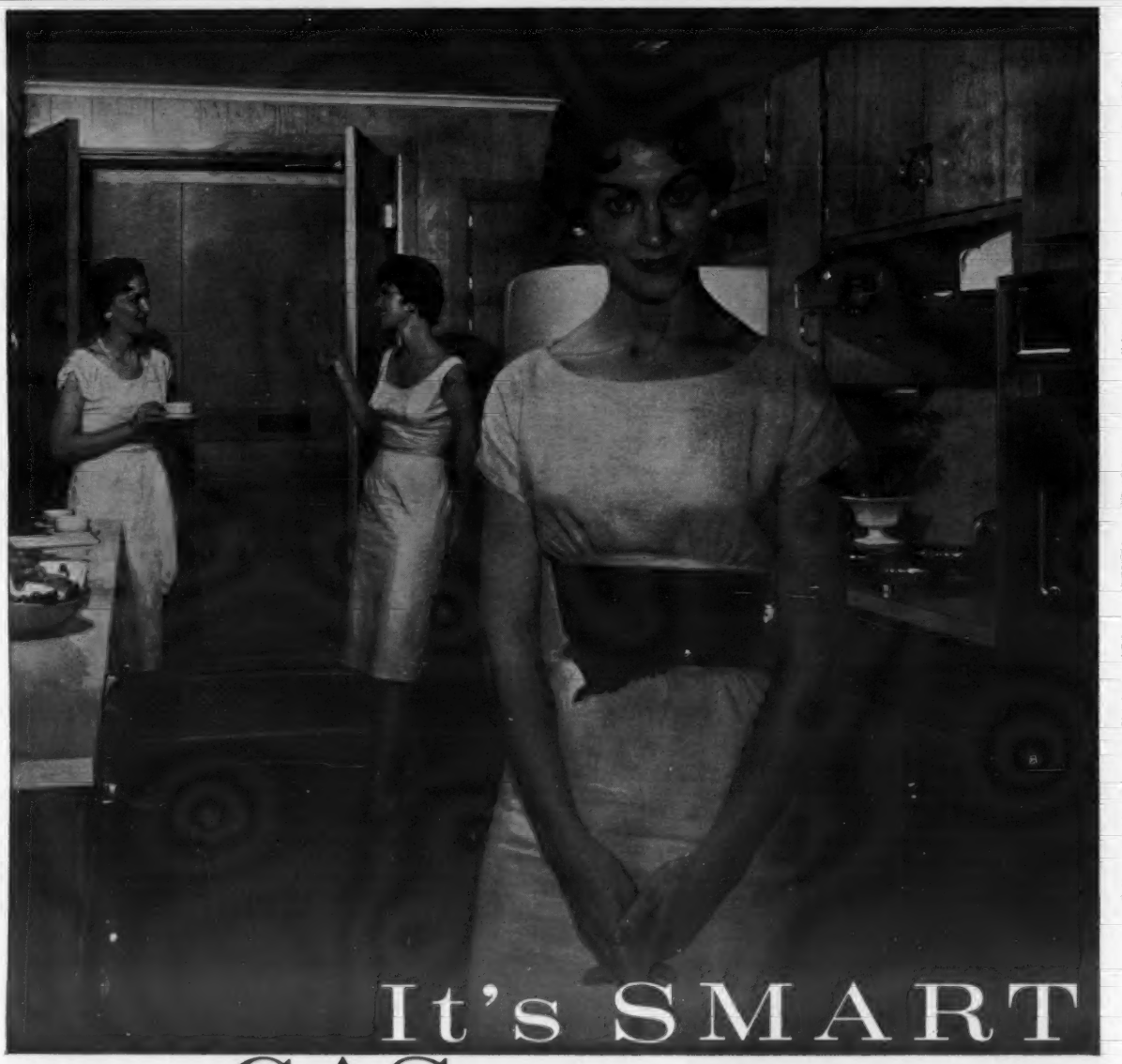
New England Fuel Dealers Assn. Alters Dues Structure

NEW YORK CITY—A change in the dues structure of the New England Fuel Dealers' Association, which establishes both solid and liquid fuel dues units for the association as of Jan. 1, 1960, has been announced by Robert Wing, executive secretary of the association and the Oil-Heat Institute of New England.

As a result, those New England Fuel Dealers' Association members who are engaged in the marketing of heating oil and other liquid fuels will become entitled to all the membership benefits of the Distribution Div. of the Oil-Heat Institute of America, as well as those of the Oil Heat Institute of New England.

This action is expected to make the New England Fuel Dealers' Association as well as the Oil Heat Institute of New England representative of approximately 900 companies distributing heating oil and/or oil heating equipment, and it will add about 350 to 400 members to the Distribution Div.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.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ARKLA-SERVEL
...SMART to distinguish your home with the finest in air conditioning, an Arkla-Servel Sun Valley 3½ or 5-ton. One unit cools in summer, heats in winter. Silent gas does all the work year-'round.
...SMART on your household budget. With the SUN VALLEY you get economy and efficiency of operation...PLUS the low annual upkeep of the only cooling unit with no moving parts.
Call your local Gas Company or write for free booklet to: Arkla Air Conditioning Corporation Shannon Bldg., Little Rock, Arkansas

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Witt exclusive Defrostair patented Heat Trap coil requires only a low cost single pole, double throw time clock for complete automatic defrosting. Easy low cost installation. Requires no re-evaporation or special plumbing. Completely automatic. Available in 21 models ranging in BTU capacities from 1400 to 44,100 at 10°T.D. Write today for complete Witt Catalog.
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A. H. WITT COMPANY, INC.
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From the Manufacturers

Service Bulletins

In this department, the NEWS presents significant items from information published in the Service and Technical bulletins of manufacturers.

AIRTEMP SERVICE SLANTS

All packaged unit replacement compressors shipped from the factory or from any field repair station will, as soon after the first of the year as possible, include a crankcase heater as a standard part. This heater must be properly wired to the unit's power supply at the time of installations. On units not previously equipped with a crankcase heater, it will be necessary for the installer to provide the wire to connect the heater leads to the line side of the compressor starting contactor. On units that have an evaporator fan motor starting contactor, the connections should be made to the line side of that contactor. Use refrigeration appliance wiring with thermoplastic or neoprene 64-in. insulation.

* * *

TYLER REFRIGERATION CORP.

FOUR EASY RULES ABOUT DEFROSTING

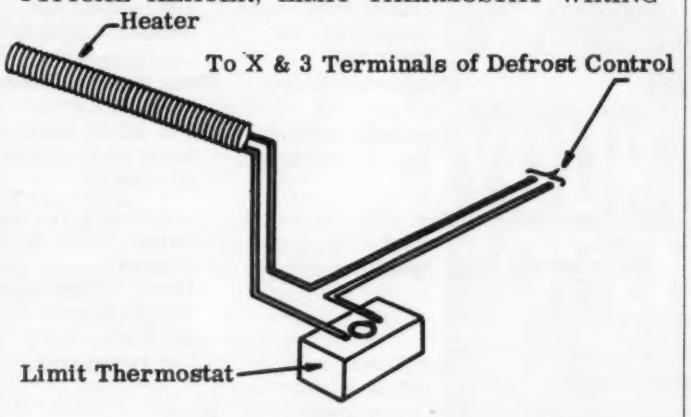
1. To effect corrections in defrost or operating control settings the coil must first be absolutely free of frost or ice.

2. The fewer the number of defrosts per day the better. Four defrosts per day on normal temperature and two defrosts per day on low temperature equipment should be the maximum, fewer if possible.

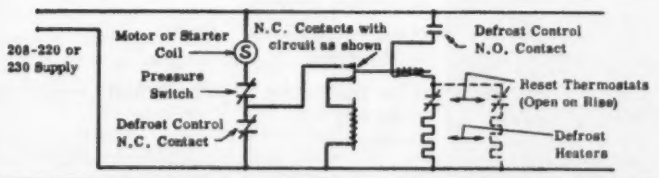
3. The number of defrosts per day should be determined only by: how long can proper circulation be maintained in the display case without accumulating so much frost on the coil as to impair refrigeration?

4. The length of defrost must be such that each and every defrost will clear the coil completely of frost or ice.

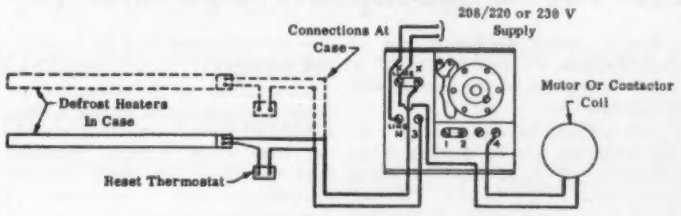
TYPICAL HEATER, LIMIT THERMOSTAT WIRING



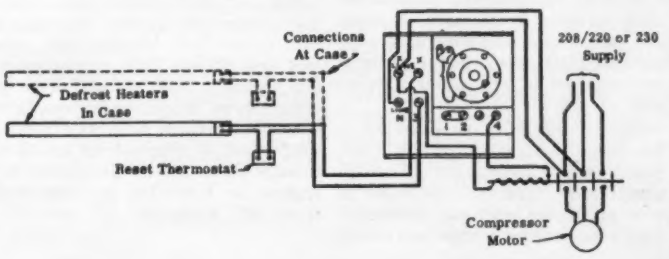
WIRING DIAGRAM



SINGLE PHASE HOOK-UP



THREE PHASE HOOK-UP

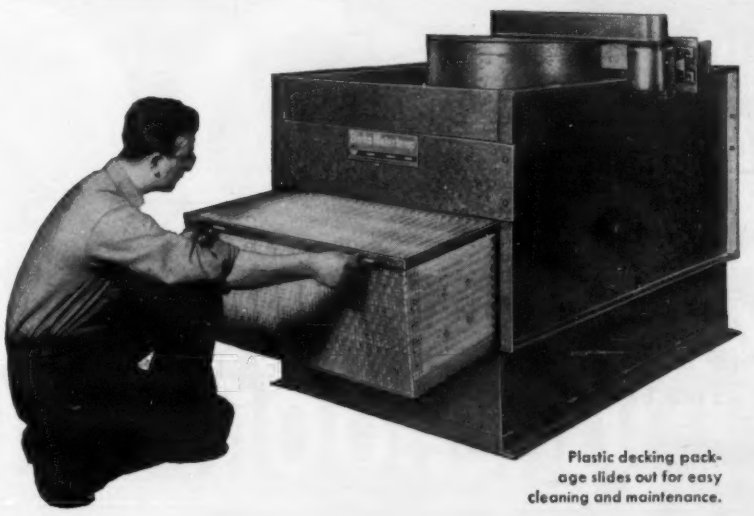


Buffalo Forge Nets $26,666,755 In '59

BUFFALO—Consolidated net sales of Buffalo Forge Co. for the fiscal year ended Nov. 30, 1959 amounted to $26,666,755 compared with $28,279,975 in the previous year, Chairman Henry W. Wendt and President William R. Heath announced recently.

Net income was $1,379,033, equal to $2.12 a share on 649,572 shares of common stock outstanding. For the year ended Nov. 30, 1958, net income totaled $1,500,903, or $2.31 a common share.

"Surveys of general industrial capital expenditure for plant and equipment in 1960 indicate a higher level of expenditure than in 1959," Wendt and Heath said in the report. "The company's incoming orders follow this upward trend."



Plastic decking package slides out for easy cleaning and maintenance.

Binks new Watertemp® cooling tower gives you advanced tower features at low installed cost

Binks WATERTEMP cooling tower packs high cooling efficiency into a package that makes sense in original installed cost and long-haul maintenance.

Fast, simple assembly
You need only a simple mounting foundation. Sub-assemblies need only a wrench . . . work goes fast.

Needs no paint
The only weatherproofing coating needed is already on the tower when shipped. All parts have been hot-dip galvanized after fabrication. A special galvanizing process deposits a thicker coating than established as standard by Federal and A.S.T.M. specifications.

Easy to maintain
There are no spray nozzles to clean. The plastic decking is practically indestructible . . . and the decking package slides completely out of the tower. Decking clean-up is easy and the whole tower interior is exposed for maintenance.

Economical 3 ways
Original price is low. Easy installation holds costs down, too. Maintenance takes little time.

Send for free Bulletin WT 501
See how the many WATERTEMP features let you specify big tower performance and still keep quotes down. Bulletin contains complete specifications. Get your copy from your nearest Binks Branch Office or write direct.

Binks
EVERYTHING FOR WATER COOLING

A COMPLETE LINE OF NATURAL DRAFT AND MECHANICAL DRAFT COOLING TOWERS AND INDUSTRIAL SPRAY NOZZLES

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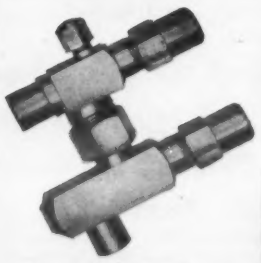
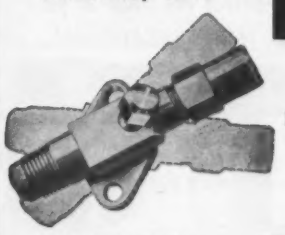


Break-Away Valve



Swivel Pad Valve

Rotalock Valve

PRIMORE
America's Outstanding
REFRIGERATION VALVES

Primore leads the industry with a full line of Steel Shut Off Valves.

Over *15 years* Research, Designing and Manufacturing experience of *top quality* Steel Valves.

FIRST with Break-away Valves;
FIRST with Swivel Pad Valves;
FIRST with Rotalock Valves!

THERE IS NO SUBSTITUTE FOR EXPERIENCE!

Furnace brazed flexible construction reduces cost. Your ENGINEERING, PURCHASING and PRODUCTION benefit!

Primore Sales, Inc.
2460 South Main Street
Adrian, Michigan

Service Diagnosis for a Complex System (1)

The complex air conditioning system designed to provide conditions vital in the test launching of the Titan Intercontinental Ballistic Missile was described in the May 25, 1959 issue of the NEWS.

Because of its important function, an operations manual was prepared giving explicit instructions on its operation and maintenance. Since proper diagnosis of service problems is so important in this system, the NEWS believes the "Trouble Diagnosis" Chart for the system will be of interest and assistance to all those who service any type of air conditioning system. The chart will be presented in a series of instalments.

For a better understanding of the "Trouble Diagnosis Chart," a brief description of the system will be useful.

The system is designed to dehumidify the air by cooling it to -10° F. or 40° F. as required, using mechanical refrigeration. The air is then reheated to 40° F. for use for cooling or heated to 120° F. for use in heating when the ambient temperature is below 40° F.

Flow of air is automatically controlled at 180 lbs./min. of recirculated air plus 70 lbs./min. of fresh air. A manual adjustment located on the instrument panel permits pre-selection of any other proportion of air.

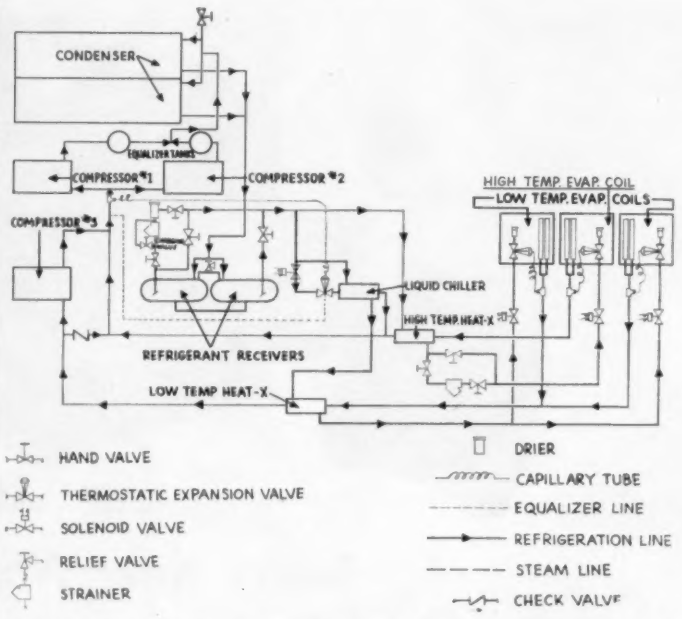
Cooling effect is supplied by a two-stage refrigerant system, composed of one 12-cylinder low-stage compressor, directly connected to a 50-hp. motor, and two 8-cylinder high temperature compressors each directly connected to a 60-hp. electric motor.

Other parts of the assembly include a 12-ton liquid cooler, a two-section air-cooled condenser mounting four 47-in. 4-blade propeller fans belted to two 10-hp. electric motors.

Prime air mover is a 60-hp. direct-drive positive-pressure blower selected to move 250 lbs. of air/min. against a 40-in. water external static pressure.

The coil section includes a cooling evaporator section containing two 16-row low temperature coils and one 12-row high temperature coil together with an air diverter valve, three expansion valves, and a two-row steam heat and reheat coil. Heat is supplied by an electrically fired steam generator designed to heat 175 lbs. air/min. from -20° F. to 120° F.

* * *



COOLING CYCLE CIRCUIT and valving for the complex air conditioning system used for test launchings of "Titan" missile is shown in the above drawing.

Safety Features In the System

1. Thermal Breaker on each motor	*Break circuit when overloaded*	Manual on each motor starter
2. High Pressure Refrigerant Switch	*Stop compressor on high condensing pressure*	Automatic on each motor
3. Low Pressure Refrigerant Switch	*Stop compressor on low suction pressure*	Automatic on each compressor
4. High Temperature Water Coil	*Break contacts on heaters*	Automatic
5. Time Delay Switch	*Prevent starting more than one compressor at a time*	Automatic
6. Oil Pressure Switch	*Stop compressor*	Automatic

Observation	Possible Cause	Remedy
a. Compressor will not start	Power off	**Check main switch, fuses, and wiring**
	Thermostat set too high	**Reset**
	Thermal overload switch open	**Reset manually**
	Oil safety switch	**Reset manually**
	Dirty contacts	**Clean the contacts on all switches and controls**
	Loose electrical connections or faulty wiring	**Tighten connections Check wiring and rewire if necessary**
	Compressor motor burned out	**Check and replace if defective**
	Solenoid valve closed; compressor stopped on low pressure	**Check for burned out holding coil. Replace if defective**
	Evaporator blower off	**Check fuses, overload. Start up**
	Condenser cooling fan not operating	**Check fuses, overloads, and controls. Re-start**
b. Compressor cycles intermittently	Low pressure switch erratic in operation	**Check tubing to switch to see if clogged Check setting of switch. It may be too high.**
	Insufficient refrigerant in system	**Add refrigerant**
	Capacity control setting incorrect	**Reset**
	Thermostat differential too narrow	**Reset**
	Suction valve closed or throttled	**Open**
c. Compressor continually cycles on dual pressurestat	Dirt or restriction in tubing to pressurestat	**Check and clean tubing**
	Faulty pressurestat	**Repair or replace**
	Condenser capacity reduced by refrigerant over-charge accompanied by high discharge pressure.	**Remove excess refrigerant**
	Discharge or suction shut-off valve not fully open	**Open valves**
	Air in system	**Purge**

(To Be Continued)

Brilliant Fire

is years ahead

NEWEST HEATERS IN AMERICA

Vent-O-magic

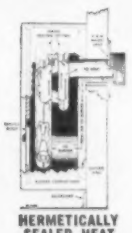
Sealed Heating

Consumer Approved Packaged Heating

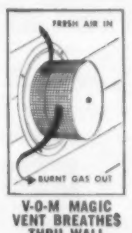
Sells like magic, because it heats like magic. That's Vent-O-Magic the dramatically different wall heater. Slashes installation time—requires no ductwork or chimney. Completely sealed exchanger; burnt gases cannot enter room.

True packaged heating. No extras to buy. Completely assembled by skilled factory technicians. Minimum service assures highest profits.

The exclusive Magic Vent literally breathes through the wall for safe, quiet, comfortable heating. Fully A. G. A. approved—even for 24" wall installation with some models.



HERMETICALLY SEALED HEAT EXCHANGER



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Available in 10,000 to 35,000 BTU/hr input ratings

Forced Air Available for Immediate or Later Addition

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Rush me full information on Brilliant Fire Vent-O-Magic heaters.

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Company:
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NOW!

A low-cost, lightweight "Freon" leak detector!

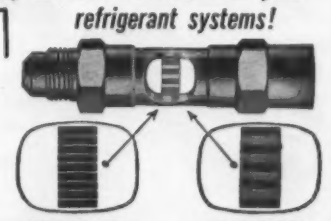
Pocket-sized Halide Leak Detector is the *smallest, easiest-to-use* tool available today to detect hard to find "Freon" refrigerant leaks. Just light the Halide torch and place hose at point of suspected "Freon" leakage. Even traces of "Freon" turn the light blue flame a vivid green. Each butane charger lasts 30 minutes. "OFF-ON" control. Also can be used as a blow torch, soldering tool.

Height: 6½"
Weight: 5 oz.
Chargers: 49¢ per box of 2
Price: $8.95

KIDDE MANUFACTURING CO., INC., 395 Farrand St., Bloomfield, N. J.

Simplest, most economical way to detect moisture in your refrigerant systems!

Positive Sealing
LIQUID EYE®
INDICATOR
featuring the built-in
MOISTURE-REACTOR



IT'S GOOD

The MOISTURE-REACTOR is composed of alternate, permanent and changing (Reactor) color bars. When all the bars appear the same color (green)—it's good—there's no moisture in system.

IT'S BAD

If moisture enters the system, every other color bar changes from green to yellow—then it's bad—the dehydrator should be replaced. When the system is moisture-free again, the Reactor color bars will change back to their original solid green color.

No more guesswork about the condition of your R-12 and R-22 refrigerant systems. No installation problems either.

Now you can get both in the same unit
....LOWEST COST **MOISTURE REACTOR** PROTECTION PLUS ALL THE PROVED **LIQUID EYE** FEATURES!

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OVER 1,000,000 LIQUID EYES SOLD TO DATE!

Reports Show Variety of Air Conditioning, Cooling Applications In Industry

First In Complex

AiResearch Begins Construction on $2.6 Million Building

LOS ANGELES — Construction started recently on a $2.6 million building, first building in a new one million square foot complex being erected by The Garrett Corp.'s AiResearch Mfg. Div. of Los Angeles on a 66-acre site in Torrance, Calif.

The completed complex will comprise a multi-story office building, laboratories for research and development, manufacturing facilities, machine shops, foundry, and warehousing.

Most of the buildings will be windowless and air conditioned to provide an ideal working environment for the precision work carried on by AiResearch, it was stated.

'The Alamo' Cast To Be Conditioned On Location

HARRISON, N. J.—What is said to be the highest-budgeted outdoor film ever produced is on location at Brackettville, Texas, where John Wayne's Batjac Productions is shooting "The Alamo"—a $10 million historical Western about the Mexican War.

If nothing else, the actors certainly will be playing it cool, because producer-director John Wayne has made it possible for his "Alamo" heroes to relax and eat in air conditioned comfort, reported Worthington Corp. here.

In one of the largest on-the-scenes cooling operations since "Call of the Wild," Wayne installed 10 Worthington 3-ton units in the mess hall and recreation room. Now John Wayne, and Richard Widmark plus 270 others connected with the film can cool their ruffled nerves after a heated battle with the Mexicans, it was noted.

Vandenberg Air Force Base Continues To Gobble Up Cooling

LOS ANGELES — "For its ever-expanding activities north of here, Vandenberg Air Force Base continues to gobble up more air conditioning equipment from Drayer-Hanson," says Sales Manager Irvin Secord.

Newest projects include complete comfort conditioning for Base Communications & Telephone Building, and another new administration office structure to be used by USAF personnel and civilian employees.

A third project (still carrying a coded delivery destination) will utilize such D-H products as single-zoned and central-station air conditioners, a quantity of coils, and air-cooled condenser equipment.

Says Secord: "It's anybody's guess just how adjacent our equipment is to those about-to-be-fired Atlas ICBM's!"

Special Controls Virtually Eliminate Semiconductor Plant Dust, Vibration

HOLMDEL, N. J.—Additional details on the air conditioned semiconductor products plant now being built here for the Bendix Aviation Corp.'s Red Bank Div. were provided recently by the Austin Co., engineers and builders of the 72,000-sq. ft. building.

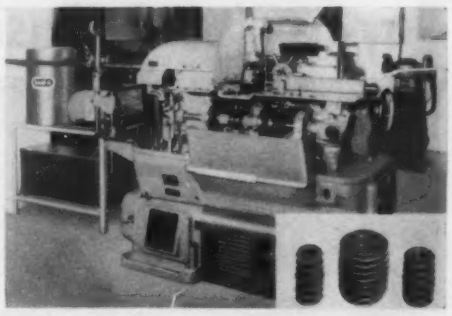
Austin has developed special controls to virtually eliminate dust and vibration from critical production areas and to maintain low relative humidity, the report said.

"A maximum of flexibility and large unobstructed working areas will be provided by the use of 40-ft. by 50-ft. column spacing and a clear height of 14 ft. below the trusses," it was pointed out.

"All mechanical facilities, including process water mains, mechanical and electrostatic filters, and other air-handling equipment will be located in the truss space.

"Ultra-pure water will be supplied by a de-ionizing system and compressed air will be passed through an air dryer to reduce its moisture to that of a dewpoint of -100° F. for distribution at 15 p.s.i.," it was pointed out.

Cooling Triples Rate of Production



IF MACHINED at too low a temperature, Tenite becomes brittle. Machining at too high a temperature permits softening, with resultant loss of precision and eventual fouling of tools. And in this application at Miggins Screw Products, Inc., Brewster, N. Y., the close tolerances which are required (± .002 on the o.d.) dictate a high degree of machining stability. To increase production and improve quality, the company installed a Heat-X cast aluminum cooler with separate condensing unit. The coolant (water with a rust inhibiting agent added) is maintained at a constant temperature of 58° F. This accurate temperature control has permitted upping the production rate from 350 to 1,100 pieces daily—more than triple.

ZOOM

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- **YOU MUST PROFIT!** Typhoon's basic policy guarantees that all planning, production and merchandising are profit-keyed!
- 4 finance plans to help you and your customers.
- Typhoon is in constant contact with hundreds of national air conditioning buyers, for your benefit!
- Typhoon field representatives are at your call for technical help, sales training and sales closing!
- Powerful "Moonshoot" advertising plus *practical* co-op ad plan brings in business!

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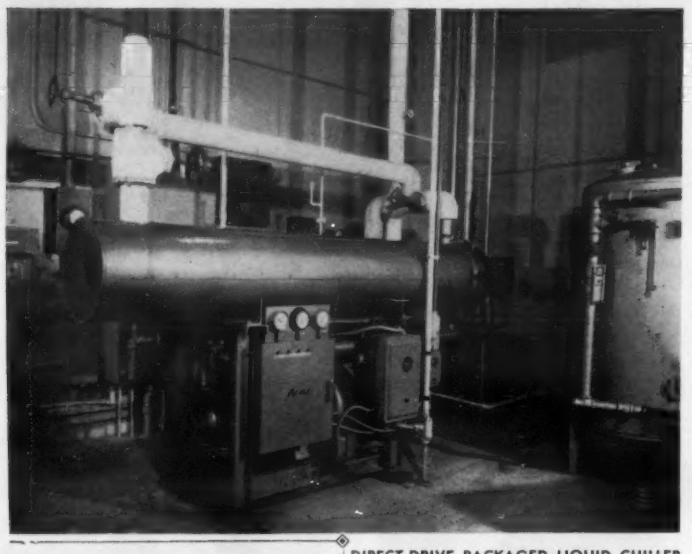
Liquid Chiller Is Feature

Hospital Installs Air Conditioning on Pay-as-You-Go Basis with Patient Rooms First



DIRECT-DRIVE PACKAGED LIQUID CHILLER of 25-ton capacity, shipped from Acme Industries as a self-contained pre-tested unit, was installed in corner of boiler room in Lakeview General hospital. Details of piping are shown here; the system utilizes the original supply and return lines plus newly-installed lines to make up the four-pipe setup to provide simultaneous heating and cooling.

BATTLE CREEK, Mich. — With a preponderant number of hospitals installing central air conditioning systems for reasons of year-round comfort control and health safeguard, the Lakeview General hospital at Battle Creek followed the same direction—with one exception.

"Let's take it in economical steps," said the osteopathic hospital's board members. "Keep it on a pay-as-you-go-basis; let's take our air conditioning by degrees."

Behind the hospital's caution lurked unavoidable, spiraling costs and a desire to balance outgo with income.

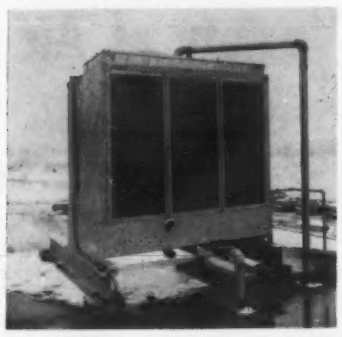
Endowed only with the desire to provide patients with maximum comfort and health protection resulting in a speedy resumption of a useful and productive life, the hospital's philosophy took full cognizance of budget limitations. But summer and winter air conditioning was a necessity which no longer could be ignored. The approach to the problem was simple:

"We shall be guided by an optimum plan, reduce it to our minimum requirements and work upward from that point," said the board of trustees.

A survey of the hospital facilities followed. It was found that for economy reasons the original blueprints had omitted provisions for air conditioning except for a mention of window units. Heating was by hot water, 3-in. pipes circulating the water through wall convectors. Heat was supplied on a three-zone basis, a single thermostat controlling each zone. The resultant temperature variation between zones was considerable.

Patient Rooms Cooled First

H. R. Cunningham, Lakeview's maintenance engineer, working with Richard J. Brockway, a Kalamazoo-based sales engineer for Acme Industries, Inc., manufacturer of air conditioning and refrigeration systems at neighboring Jackson, by-passed convention by deciding that the 37 two-bed rooms would be the Number One objective for year-round air conditioning. Operating rooms and other hospital appurtenances, which ordinarily are the first to be air conditioned, would follow when the budget permits.



OUTDOOR-TYPE cooling tower installed this past winter was an additional phase of the hospital's pay-as-we-go plan.

Plans for the step-by-step program began to take shape when Brockway viewed the 3-in. piping and other problems.

Four-Pipe System Proposed

"To be practical and to save money over the long run, let's begin by installing another supply and return," advised the engineer. "This will give us a four-pipe system lined to an Acme DD packaged water chiller. Two pipes will contain hot water and two will provide the chilling when called upon; they will operate simultaneously so that one room may be cooled while another is being heated."

The proposal called for fan coil units in each of the two-patient rooms, with a thermostat within easy reach between the beds. The hospital lobby also would be cooled by a fan coil unit. Ceiling-suspended units were chosen for the one-floor laboratory.

As a temporary economy measure a cooling tower was eliminated from the original plans. The hospital's deep wells offered a natural supply of almost limitless water to cool the condenser. Later, budget permitting, a cooling tower could be added, and automatic changeover controls could replace the two-valve manual system.

Also left for future installation was a second chiller to provide the capacity to cool operating rooms, delivery rooms, and recovery rooms, where 100% fresh air and controlled humidity are now provided.

Selected for installation in the boiler room was a 25-ton capacity Acme DD package chiller which was factory assembled and pre-tested. The system cools about 50,000 cu. ft. of hospital area; in a 90° temperature the water out is 45° and returning is 55°.

HEAT CONTROLLER, INC.

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COMPRESSOR CONDENSER UNIT

AIR CONDITIONERS: HEAT PUMPS — SELF-CONTAINED AND REMOTE — GAS FURNACES DEHUMIDIFIERS — ELECTRIC DUCT HEATERS — CONDENSING UNITS — A & H COILS

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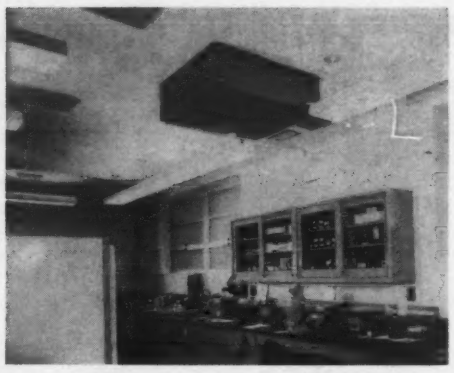
FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES



PROBLEM of creating year-round air conditioning for the hospital's laboratory, which was a later addition to the original structure, was solved by installing two Acme Industries horizontal-type fan coil units at ceiling level. One of the units is shown.

Hospital Air Conditioning--

(Concluded from preceding page)

Fan coil units chosen for the patient rooms and lobby were Acme 200 and 300 c.f.m. models. Ceiling-suspended Acme units were chosen for the one-floor laboratory. All fan-coil units are connected to the four-pipe system. They provide adequate heating and cooling year around by simply adjusting individual room temperature controls.

Second step in the hospital's progression to an optimum plan was reached recently when installation of a forced draft counterflow type of cooling tower began. It is a 50-ton Acme AST tower, which is capable of handling an additional chiller already programmed. Well water continues as a cooling medium but the treated water is now recirculated through the piping, condenser, and the tower continuously. This saves excessive scale and ph treatment as well as demands upon the hospital's water supply which for all hospital purposes averaged about 20,000 gal. per day.

Consulting engineer on the hospital's summer and winter air conditioning program was Clinton Stringham of Battle Creek. Tony's Refrigeration, Kalamazoo, was the installing contractor. John H. Burgess & Associates, architect at Battle Creek, designed the hospital.

Cleaver-Brooks Offers Packaged Boiler Specs

MILWAUKEE — Cleaver-Brooks Co., producer of packaged boilers, announced the availability of two new eight-page catalogs giving complete specifications, ratings, and dimensions of Cleaver-Brooks packaged boilers.

Air Force To Require ARI Seal--

(Continued from Page 1, Col. 3)

for Unitary Air Conditioning Equipment, and recommends that the certification be required on this type equipment for the Air Force."

Text of the requirement itself reads as follows:

"1. ARI Certification Program

"The Air Conditioning and Refrigeration Institute has established a Certification Program for all unitary air conditioning equipment rated below 135,000 B.t.u.h. at Standard Rating Conditions, and covered by ARI Standards 210-58 and 250-58. Unitary air conditioning equipment consists of one or more factory made assemblies which normally include an evaporator or cooling coil and a compressor and condenser combination. Where such equipment is provided in more than one assembly, the separated assemblies are designed to be used together, and the ARI certification is based upon the use of matched assemblies. The Certification Program does not apply to heat pumps or room air conditioners.

"2. Advantage

"Information available to headquarters USAF is that 90% or more of the market for this equipment is supplied by manufacturers participating in the ARI Certification Program. A requirement that such equipment supplied to the Air Force must be certified under this program, will do much toward assuring that substandard equipment is not supplied, and that the equipment will produce the advertised capacities.

"3. Certification for Air Force Equipment

"It is, therefore, requested that future Air Force specifications for this type unitary air conditioning equipment require ARI Certification. A sentence similar to the following is recommended for inclusion in the specifications. 'The air conditioning equipment to be supplied or installed under these specifications shall be certified under the Air Conditioning and Refrigeration Institute Certification Program. The manufacturers of the equipment shall furnish to the Contracting Officer a copy of the Air Conditioning and Refrigeration Institute listing or ARI Certification of the equipment.'

"4. ARI Directory Availability

"The Air Conditioning and Refrigeration Institute publishes a Directory of Certified Unitary Air Conditioners, listing manufacturers, models, and the ARI Standard Ratings of each model. The Directory explains the Certification Program and how it is administered. Any required number of copies of the Directory may be obtained free of charge by requesting them from: Air Conditioning and Refrigeration Institute, 1346 Connecticut Ave., N.W., Washington 6, D. C."

RACCA Names Jensen

(Continued from Page 1, Col. 3)

Tom Alexander, T. C. Alexander Co., Denver, RACCA national president.

The new headquarters in the nation's capital will be at 309 La Salle building, 1028 Connecticut Ave., N.W.

"Setting up a full-time office was made necessary to better serve a growing organization in the rapidly expanding refrigeration and air conditioning industry," Alexander stated. "The office will be organized to give special attention to those contractor problems which have their origin and, therefore, their solution at a national level.

"Norman Jensen comes to us with 7 years of executive staff and management experience, the last nine years of which were spent in Texas, where he helped organize M.C.A. of Houston and the M.C.A. of Texas.

Preserves, Pickles Producer's Plant Cooled

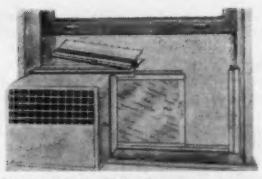
LYNCHBURG, Va. — Famous Virginia Foods Corp., manufacturer of preserves, pickles, and other products, soon will occupy its new $200,000 windowless, air conditioned plant on U.S. Rt. 29, seven miles from Lynchburg.

L. B. Houff, Jr., corporation president, said one reason for the lack of windows "is the detrimental effect natural light has on foods. It bleaches out the chlorophyll in pickles, the largest volume products," he added.

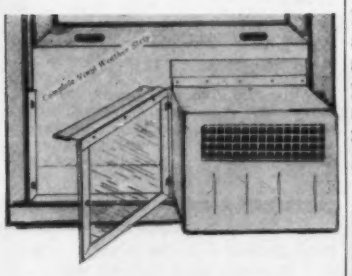
The New

AIR CONDITIONER WINDOW INSTALLATION KIT

JIFFY '60' SLIDER



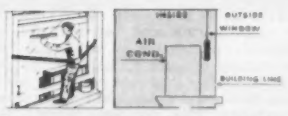
JIFFY "60" SLIDER made for our out-of-town customers. The Jiffy "60" will fit any make air conditioner and any size window up to 60 inches. Jiffy "60" is delivered ready to assemble and ship F.O.B. New York (without glass).



Free and easy air conditioner window

FREE 'N EASY is assembled and ready for installation to fit any window and all brands of conditioners.

(UPON ORDERING, GIVE US MAKE AIR CONDITIONER, SIZE OF WINDOW AND LEFT OR RIGHT INSTALLATION.)



With the FREE 'N EASY and the "Jiffy Slider" both eliminate bulky, unsightly units, allows raising or lowering regular sash BEHIND the unit—the big objection to conventional installations.

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These 2 Krack 15-ton Remote Type Air Cooled Condensers at the Safeway Supermarket in Oklahoma City, condense Freon-12 refrigerant for 15 compressors serving food sales cases, display cases, and walk-in service rooms.

"We chose Krack Air Cooled Condensers for Safeway because of full rated-capacity performance, low cost, and better delivery."

—L.C. Nettleship, Jones-Newby Supply Co., Oklahoma City

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YOU ENJOY THESE ADVANTAGES:

Equipment matches the job . . . You can be *sure* about actual performance. You don't have to "play it safe" by specifying more costly, "oversize" equipment for a job when it is not needed.

Gain advantages of lower bidding . . . By saving cost of specifying "oversize" equipment to compensate for uncertain performance, you can bid lower and win more jobs.

Save installation and maintenance headaches . . . With Krack job-rated equipment, installations go more smoothly. Costly service calls for repairs and adjustments are rare. A good way to retain priceless customer good will.

No service calls with Krack Air Cooled Condensers—Eliminate maintenance problems . . . forget about down time for draining, scale removal and periodic overhauls. No water is required. Destructive corrosive action from water is gone and so are costly callbacks.

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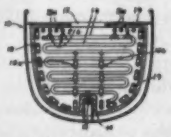
0239

PATENTS

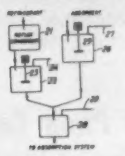
Week of Oct. 20

2,909,040. APPARATUS AND METHOD FOR FREEZING FISH. Malcolm L. Newell, San Pedro, Calif.



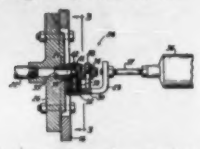
3. In a method for freezing fish in a fishing boat, and by which unusually large amounts of fish can be quickly frozen as separate units, the steps of continuously supplying a refrigerant from a closed refrigeration system to coils extending all about the bottom, sides and ends of a fish receiving zone and through an intermediate bank therein. . . .

2,909,041. ABSORPTION REFRIGERATION SYSTEM AND METHOD OF TREATING THE SAME. Nils E. af Kleen and William J. Poehlman, Milwaukee, Wis., assignors to A. O. Smith Corp., Milwaukee.



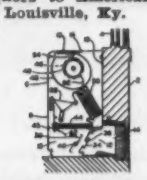
1. In a method of circulating a working mixture of an absorbent and a refrigerant in an absorption system, the improvement comprising separately dehydrating and degasifying the refrigerant and the absorbent to reduce the moisture content of each. . . .

2,909,042. LIQUID LEVEL AND TEMPERATURE RESPONSIVE CONTROL VALVE FOR REFRIGERATION APPARATUS. Joseph N. Long, Wauwatosa, Wis., assignor to The Vilter Mfg. Co., Milwaukee.



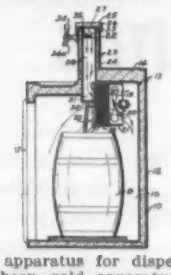
5. A control device of the character described including a head adapted to be secured to a liquid tank in which the temperature is variable, a support secured to said head and adapted to extend into said tank, a valve seat in said support through which liquid may pass from said tank, an arm pivotally mounted on said support, a valve element secured to said arm adjacent one end thereof for swinging between positions in which it engages or opens said valve seat. . . .

2,909,043. AIR CONDITIONING UNIT. Forrest G. Baker, Davenport, Iowa, and William V. Milliman, Moline, Ill., assignors to American Air Filter Co., Inc., Louisville, Ky.



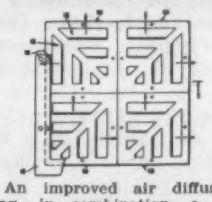
1. In an air conditioning unit for a room: a cabinet having air inlet means for admitting outdoor air and room air into said cabinet, and air outlet means through which air is discharged from said cabinet; blower means for inducing air flow through said cabinet; primary damper means for controlling the proportions of outdoor and room air admitted to said cabinet. . . .

2,909,044. SPOUT COOLING APPARATUS. John F. Wilcox, Excelsior, Minn., assignor to Superior Products Mfg. Co., Minneapolis.



1. In apparatus for dispensing and cooling beer, said apparatus comprising a refrigerator having a housing defining a cooling compartment adapted to receive a keg of beer, the housing having a top wall with an elongated opening therein, a casing secured on the top wall of the housing and defining an interior chamber having a closed outer end and an inner end with an elongated opening communicating with the opening in the top wall, a liquid-dispensing spout mounted on the casing and having a heat-conductive member projecting. . . .

2,909,112. AIR DIFFUSER. Hrant H. Yousoufian, Flushing, N. Y.

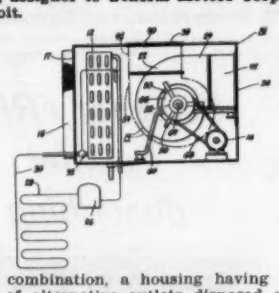


1. An improved air diffuser comprising, in combination, a plurality of square frames arranged in a rectangular conformation and disposed to cover the mouth of an air duct, the mouth of the said air duct being provided with removable support means engaging the periphery of said frames arranged in said rectangular conformation, the said frames being provided with upright rectangular flanges disposed interiorly of said air duct. . . .

2,909,237. FILTER APPARATUS. Leonard J. O'Dell, Louisville, Ky., assignor to American Air Filter Co., Inc., Louisville, Ky.

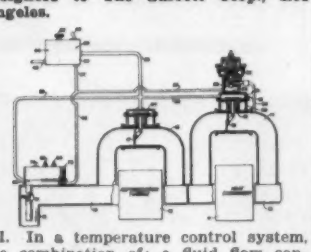
1. A collapsible filter medium comprising at least two sheets of material in faced relationship, each of said sheets of material including a plurality of spaced tab portions extending along the length and breadth thereof and pivotally secured thereto so that each tab portion has a free end movable from the sheet to which said tab portion is secured. . . .

2,909,314. REFRIGERATING APPARATUS. Joseph B. Dunn, Dayton, Ohio, assignor to General Motors Corp., Detroit.



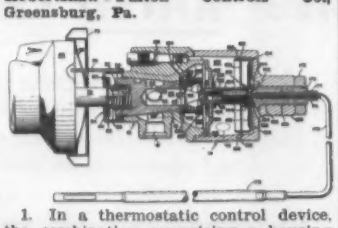
In combination, a housing having a pair of alternative outlets disposed at an angle to one another, a centrifugal blower within said housing selectively discharging air through either of said outlets, said blower including a drive shaft, a blower wheel fixed to said drive shaft. . . .

2,909,323. AIRCRAFT CABIN AIR CONDITIONING SYSTEM. Robert L. Cholvin, Bernhard C. Harvey, Jr., and Raymond W. Jensen, Phoenix, Ariz., assignors to The Garrett Corp., Los Angeles.



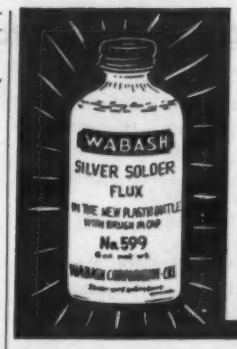
1. In a temperature control system, the combination of: a fluid flow conduit; a main valve controlling flow therethrough; a first pneumatic actuator therefor; a pneumatic control pressure regulator means having a first pressure output means communicating with said first pneumatic actuator, said first output means having a first restricted orifice disposed to control flow of pressure to said pneumatic actuator. . . .

2,909,324. THERMOSTATIC VALVE CONTROL. Victor Weber and Charles D. Branson, Greensburg, and Francis S. Genbauffe, Irwin, Pa., assignors to Robertshaw-Fulton Controls Co., Greensburg, Pa.



1. In a thermostatic control device, the combination comprising a housing having an inlet and an outlet separated by a valve seat, a regulating valve member engageable with the valve seat, a mounting post operatively connected to said regulating valve member and extending therethrough with opposite ends disposed on opposite sides thereof. . . .

(To Be Continued)



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I AM interested in permanent employment with a reputable company, as a service representative. I hold a technician certificate from a large state university, 3 years of college work, 8 years in refrigeration & air conditioning and construction service work. Write: BOX A6487, Air Conditioning, Heating & Refrigeration News.

TECHNICAL BACKGROUND combined with broad experience in research, engineering, manufacturing and sales of commercial refrigerators and other products. Able to direct complete development program or manufacture of refrigeration equipment requiring latest technical knowledge and sound business judgment. Industry-wide reputation. Available soon. Write: BOX A6489, Air Conditioning, Heating & Refrigeration News.

SERVICE AND installation mechanic or foreman. Technician with 20 years' experience, 15 in supervision both installation and maintenance up to 200 ton in air conditioning, heating, refrigeration and other mechanical equipment. Qualified background. Can think for myself. Wish to relocate in Southwest as mechanic or foreman. Building or plant maintenance foreman or engineer. Write to: BOX A6491, Air Conditioning, Heating & Refrigeration News.

EIGHT YEARS' experience in application engineering and sales with dealer, manufacturer, and distributor of air conditioning and heating equipment. Desiring to become associated with manufacturer of residential equipment as sales application engineer: Oklahoma, Texas area. Residing Oklahoma City, age 37, married, presently employed, layout jobs. BOX A6492, Air Conditioning, Heating & Refrigeration News.

INDUSTRIAL SALESMAN nine years' experience, would like to represent a refrigeration, and air conditioning firm. Or, team up with someone in acidizing condensers, towers, etc. Have unlimited power plant and refrigeration engineers licenses. Age 34. Now calling thumb area of Michigan with maintenance chemicals. Write: BOX A6494, Air Conditioning, Heating & Refrigeration News.

POSITIONS AVAILABLE

SALES REPRESENTATIVES Wanted. Western and North Central territory open for sales to hotel and restaurant equipment dealers. Beverage-Air milk coolers lead in school installations. Several new "merchandising" coolers now available for nation-wide distribution. All products warehoused and shipped F.O.B. Chicago. Available to either new or established representatives with limited number of lines. Brief resume, indicating other lines carried, will bring immediate response. All replies held in strict confidence. Address replies to: BEVERAGE-AIR SALES COMPANY, Interstate 85 near Hearon Circle (P.O. Box 4044), Spartanburg, S. C., Attention: Mr. H. L. Buffington, President.

REFRIGERATOR CABINET Engineer required for home freezer department. Must be familiar with production techniques in metal fabricating industry, tooling and materials used in refrigerators and freezers. Three to five years' experience preferred. State qualifications and salary requirements. All replies held in strictest confidence. Write, phone or wire information to Bryan E. Thompson, Personnel Director, Food Freezer Division, CARRIER CORPORATION, P. O. Box 2010, Tyler, Texas.

SALES ENGINEER for air conditioning and heating contractor. Must be capable of handling established industrial accounts and developing new accounts from leads furnished. Experience with central station equipment desirable. Reason for open position is promotion of other personnel. Old aggressive company, fine reputation, all fringe benefits, long-term opportunity. Write or call E. H. Williams, THE HAUSMAN STEEL COMPANY, P. O. Box 416, Toledo, Ohio.

AIR CONDITIONING and heating sales engineer by long-established Washington firm. Desire young man with some experience and engineering education who will learn to handle complete job. Reasonable salary and share of profits. Please mail resume, education, and experience with snapshot if convenient to C. L. McCREA, 516 Second Street, N.W., Washington, D. C.

MANUFACTURERS REPRESENTATIVES wanted in key trade areas to represent complete line of Water Tower Treatment Chemicals. Competitive prices and pre-season program on proven line offered by established aggressive company. Advise territory covered and lines. All inquiries in confidence. SKASOL CORPORATION, Box 80, Webster Groves 19, Mo.

AIR CONDITIONING service manager qualified to take charge of growing service dept. Exceptional knowledge of controls, air balancing, refrigeration and heating components necessary. Must have experience in sales of service contracts and management. We are a medium sized air conditioning contractor with exclusive Carrier dealership. Send resume to THERMODYNE CORP., 1551 Coda Avenue, Long Beach 13, California.

SMALL MANUFACTURER of heat pumps (located in Los Angeles) has immediate opening for potential general manager. This position with a financially sound company represents a great challenge with commensurate salary opportunities. Write: BOX A6471, Air Conditioning, Heating & Refrigeration News.

DESIGN AND development engineers—Successful applicants will have an ME degree, will be 4 to 5 years out of college, with experience in air handlers phase of air conditioning industry or centrifugal refrigeration units and/or absorption systems. Excellent opportunity for young men with one of the industry's growth companies. Midwest location. Please submit complete resume to BOX A6485, Air Conditioning, Heating & Refrigeration News.

EQUIPMENT WANTED

WANTED: MANUFACTURERS surplus, outdated or obsolete refrigeration items—expansion & water & shut-off valves, controls, relays, dehydrators, units, tubing, fittings, etc. All sales on a cash closeout basis, large or small quantity. Write or call: COMMERCIAL CONTROLS CO., 257 East 3rd Street, New York 9, New York, ORegon 3-7210.

WANTED: MODEL QT-5 Kennard fiberglass encased "water savers". Cooling towers—must be new—advise the quantity you have—price and shipping point. Write or call: JOHN H. COUSE INC., 308 Fern Street, West Palm Beach, Florida. TEmple 3-4453.

EQUIPMENT FOR SALE

SEALED UNITS Re-manufactured equal to new all makes domestic and commercial. One year guarantee against defective workmanship and material. Send for free terminal color guide and dome exchange chart. Price list included. Some territory still open for distributors. BONDED HERMETIC RE-MANUFACTURING CO., INC., 608 Coney Island Ave., Brooklyn, N. Y., GEdney 5-8680.

NOTICE: DISTRIBUTORS, dealers, servicemen, users refrigeration equipment—repair parts available all models Baker ammonia and Freon compressors. Also models 6B and F6B ammonia compressors. We are exclusive Baker export sales office. Manufacturers' export agents refrigeration, air conditioning, and allied equipment. THE KEISER COMPANY, 7651 South Ashland Avenue, Chicago, Illinois.

DEALERS, DISTRIBUTORS, agents—Remote air cooled - air conditioning. Heat pumps that defrost without reversing without loss of efficiency (patent applied for). High quality, competitive pricing. Some territory in North, East, and far West open—dealers anywhere. NATIONAL THERMATIC CORPORATION, Division of JOHN FELTER COMPANY, P. O. Box 7464, Houston, Texas.

ATTENTION REFRIGERATION Servicemen: Send for catalog listing values in refrigeration and air conditioning parts, relays, capacitors, compressors. Savings up to 50%. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

THERMOSTATIC EXPANSION valve—Europe's best—½-1 ton F-12 now available stocked in U.S. Immediate delivery for manufacturers, contractors, territories open for representatives, wholesalers, 1 year guarantee, small, efficient, reliable—priced under market. Write BOX A6479, Air Conditioning, Heating & Refrigeration News.

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DISTRIBUTORS WANTED. New, proven temperature warning alarm . . . sold to super markets, chains, restaurants . . . every store using refrigeration. Simple to install—virtually no maintenance. Real money saver—quick sales . . . satisfactory profits for distributors. Send for our proposition. RICHMOND REFRIGERATION CO., 765 Post Ave., Staten Island 10, New York.

OPPORTUNITY IN long established going air conditioning, refrigeration contracting, sales & service business for investment with services or complete ownership. Located in Southern California. Qualified inquiries will receive full information. Reply: BOX A6465, Air Conditioning, Heating & Refrigeration News.

WELL ESTABLISHED New York City air conditioning and refrigeration mechanical contractor — industrial and commercial — desires partner to buy one-half interest. Field working knowledge and good sales ability necessary. Investment five figures. Write: BOX A6466, Air Conditioning, Heating & Refrigeration News.

COMMERCIAL REFRIGERATION Business For Sale: Long-established business in good territory. Owner retiring to Florida. Low rent in wholesale district. Low cost inventory, mostly good re-conditioned equipment assures quick working capital. Terms if desired. Owner would advise and assist for some time if desired. Excellent opportunity for one or more men with some experience. Write: BOX A6490, Air Conditioning, Heating & Refrigeration News.

Engineers Want Their 'Seal' on Bids--

(Continued from Page 1, Col. 3)

be injured," the statement declares.

"Whenever any group achieves importance in the public eye, some persons try to assume the banner of the important group for their selfish motives. Such is the case with engineers at the present time."

The release continues: "Last year, two people were killed in their sleep by a person or persons unknown. The killer or killers are still at large and they may strike again.

"The target is in any home or apartment building having a central forced air heating and ventilating system. The weapon used is an improperly designed heating and ventilating system which kills as surely as a gun."

The ISPE chapter says that when Mr. and Mrs. James W. Franklin of Evanston, Ill. were found dead last summer, "there was a great mystery about the cause of death. The coroner of Cook County finally determined that the cause of death was poison gas.

"A special team of expert engineers found that the gas was created within the heating and ventilating system because of faulty design. The designer of the system was not determined at the inquest, but it may be assumed that the Illinois Professional Engineering Act was violated."

Facts In Franklin Case

(As reported in the NEWS last August, a blue-ribbon coroner's jury found that the death of the Franklins was caused by carbon monoxide poisoning.

(On the basis of an investigation conducted by utility company and professional engineers, the NEWS report said, the jury indicated that the main contributing factor to the build-up of lethal quantities of the carbon monoxide gases had been lack of combustion air supply for the gas-fired year-round air conditioning system. The air conditioning unit itself was not mentioned in the jury's report.

(The NEWS story noted that the house was tightly sealed in its construction, and two basement windows, which those familiar with the family said in former years were usually left open, had been locked tight because the house had been robbed earlier last year.

(As the oxygen was used up in the basement, the investigators concluded that a resulting vacuum caused a down draft in the chimney and combustion gases remained in the basement and eventually went through the house, causing the deaths.)

The ISPE chapter stated that its Ethics and Practice Committee "has embarked on a campaign to prevent people who are not legally qualified engineers from holding themselves out as engineers. This is just one step in trying to prevent a similar occurrence as the deaths of Mr. and Mrs. Franklin.

Many Who Offer Service Called Unqualified

"The committee through the superb work of Mr. Louis A. Bacon has found almost 60 people who offer to perform services which seem to come under the Illinois Professional Engineering Act but not one of whom is a legally qualified engineer.

"All of the facts uncovered with names and addresses have been turned over to the State of Illinois Department of Registration and Education for investigation and possible prosecution under the criminal provisions of the Act.

"Unfortunately, in the four months that the Department has had the information, not one investigation has been started by the Department.

Ask City Department To Require a Seal

"In order that a similar occurrence does not happen in Chicago, that is, the engineer designing a heating and ventilating system be unknown, the engineering profession has asked the City Building Department to require all plans and specifications to be sealed with a professional engineer's seal.

"This is to protect the public by laying the responsibility with one individual and to conform with the state law which requires seals. To date, the Building Department has not seen fit to provide the public with this protection."

The ISPE chapter said that "As a last resort," the public may try to protect itself, when dealing with purported engineers, by asking whether they are legally qualified engineers.

"All legally qualified engineers have certificates from the State as well as wallet cards which indicate that they have a certain education and engineering experience and have passed a rigorous examination in engineering," the chapter said.

State Law Is Cited

"The State law provides that all plans and specifications which are professional engineering must be sealed by the professional engineer who was in responsible charge."

The release concluded with this advice to individuals: "When you plan new house wiring, a new heating system, or an addition to your house, be certain that the person who is making the plans and specifications is a legally qualified engineer and not a 'quack' out to get your money. The lives you save may be yours and your family's."

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

E. F. Fredrichsdorf Dies Unexpectedly

MILWAUKEE — E. F. (Eddie) Fredrichsdorf, 69, manager of the order department of The Vilter Mfg. Co., died unexpectedly Feb. 10. He was a member of Vilter's 50 Year Club with a record of almost 53 years of continuous service.

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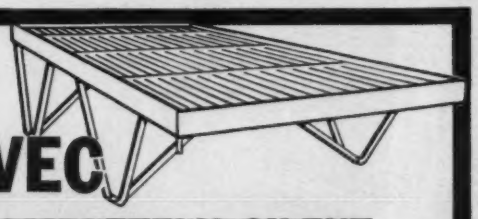

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Carrier Overtime Dispute--

(Continued from Page 1, Col. 2)

the main gate. The walk-out started with the night-shift workers Wednesday, March 2, after a union negotiating committee approved the strike. The company had ordered a temporary layoff of the president of Local 5895 of the United Steel Workers (which won recognition as the bargaining agent in a recent election when it obtained 50.4% of the vote), and reprimanded four other local officers for allegedly interfering with production.

Propose March 8 Meeting

Company representatives said that a meeting had been proposed March 8 with representatives of the Federal Mediation and Conciliation Service, presumably to settle the issues in the immediate dispute.

The company charged these union leaders induced other employes to refuse to work overtime. The union contends Carrier was ordering overtime work during contract negotiations to stockpile equipment in the event of a strike. The company said that the overtime had been ordered to fill a heavy backlog of orders. (See story on page 6 for report on first quarter of Carrier fiscal year).

Local President Given Five-Day Layoff

"Francis Brewster, president of Local 5895, United Steelworkers, was given a five-day layoff for refusal to perform assigned work, and four other officers were given reprimands —the minimum penalty—for interfering with production by inducing fellow employes to refuse to work overtime," says a company statement.

"The disciplinary action culminated a series of events which included a union meeting at which the membership, by voice vote, passed two motions, one 'to urge all employes of Carrier to work no more than 8 hours a day or more than 5 days a week' and second 'in the event that the company carries out its threat of disciplinary action or reprisals of any kind, that the membership will support such members by a united front and concerted action up to and including a complete shutdown of all operations.'

Carrier Tells Union It Is Not Stockpiling

"Management assured the union that Carrier was not doing any stockpiling and that overtime work is related solely to the filling of orders. Overtime work in the Syracuse operating divisions of Carrier at this time of the year has long been a normal practice, management officials pointed out to the union.

"In the Unitary Equipment Div., whose products are marketed through a distributor-dealer organization, equipment is manufactured in advance of the spring and summer selling seasons. In the Machinery and Systems Div. the longer working hours have been necessary for a long period to meet competitive demands.

"William Bynum, Carrier president, in two bulletins posted in the Syracuse plant, pointed out that production time lost in November and December because of the strike in the basic steel industry caused abnormal delays in shipping schedules. Bynum stated: 'Unless we make shipments to customers on time we will lose current and future business. This would result in less hours of work in the future and probably fewer jobs.'"

Carrier officials, when told by a representative of the Steelworkers' Union that the plant was being struck, advised its hourly rated workers to remain away from work for their own safety, but asked salaried employes to continue working.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Conditioners To Be Primary Welbilt Line

NEW YORK CITY — Welbilt Corp. has decided to make air conditioners, instead of ranges, its primary product "because the possibility of expansion is greater there and because we can make a better profit on them," Emanuel Miller, treasurer, said recently.

Miller said Welbilt plans to increase air conditioner production about 25% over a year ago. This should mean an increase in air conditioner sales to around $10 or $11 million from about $7 or $8 million, it also was reported.

He added that Welbilt is still interested in acquiring other firms "and one or two look very definite."

According to preliminary estimates, the company's sales last year rose to more than $27 million from $19,306,082 the year before and net profit climbed to more than $750,000 from $406,762 in 1958. Recent acquisitions accounted for much of the improvement in earnings, it was stated.

Los Angeles Airport Equipment To Be Supplied by Drayer

LOS ANGELES—Announcing a "walloping big bite of new business out of Southern California, Drayer-Hanson said it covers supplying the many-faceted air handling phases of the new $46-million dollar Terminal facilities for Los Angeles International Airport.

Irv. Secord, spokesman for the manufacturer, indicates that under the contract, over 100 large D-H multi-zone, single-zone, and smaller air-movers, more than 200 room-by-room air conditioners, and several score of coils will be heading for the project.

Securing the contract for them was Air Conditioning Supply Co., Los Angeles and San Diego—Southland sales representative for D-H.

Initial processing for fabrication began recently at Drayer's main plant facility. First phase delivery to job-site is projected for about April 1, it was indicated.

Co-ordinating architects on this multi-million dollar project are Charles Luckman Associates, AIA; Welton Becket & Associates, FAIA; and Paul R. Williams, AIA. Mechanical engineer is J. S. Hamel, Burbank; mechanical contractor, Climate Conditioning Div., Paul Hardeman, Inc.

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